

b. Library Curriculum & Spending Plan

Library Curriculum Summary

Kindergarten to Fifth Grade

- Consistently demonstrate appropriate library citizenship and etiquette while being considerate of other patrons and the library itself.
- Demonstrate independent library usage by locating materials in easy fiction, easy nonfiction, fiction, nonfiction, biography, and reference sections of the library. Use signage and call number structure to locate materials. Identify which section of the library a book is housed based on its call number structure.
- Demonstrate the proper care of library materials.
- Demonstrate the procedure for borrowing and returning library materials.
- Demonstrate an appreciation for literature by studying genres that augment classroom resources and expand personal interests. Recognize famous authors and the purpose of the Newbery Award, while being exposed to themes of award winning literature.
- Differentiate between fiction, nonfiction, biography, and periodical text and the different ways these texts are organized in the library. Compare elements of organization in nonfiction and fiction texts.
- Recognize periodicals can be used as a source of current information.
- Demonstrate safe and appropriate usage of online materials both to care for the technology itself and to safely search for information.
- Recognize the organization of online research materials.
- Demonstrate ethical ways to conduct research and not violate copyright laws.
- Demonstrate the usage of a standard research model, the Big 6, to answer specific research questions.
- Demonstrate the usage of Elementary Library Materials Organizer (ELMO) to answer teacher directed research questions.
- Demonstrate the usage of the Dewey Decimal System to locate resources. Identify and use the ten main groups of the Dewey Decimal System.
- Demonstrate how to use print and online reference tools such as dictionaries, thesauri, encyclopedias, almanacs, atlases and online periodical databases to access information.
- Demonstrate using the organizational tools of these references such as alphabetical order, guidewords, volume arrangement, indexes, keyword and subject searching.
- Demonstrate how to use the electronic card catalog by completing subject, author, title, keyword, series and power searches and locate these materials on the shelves.

6th Grade Library Curriculum

- Implement the usage of a standard research model, the Big 6, to answer specific research questions.
 - Demonstrate an appreciation for various types of literature.
 - Identify poetry as one of the genres of literature that can be enjoyed.
 - Demonstrate a selection of periodicals and show that they can be a source of information for research purposes as well as a source for exploring personal interests.
 - Identify short story collections as a genre of literature to be enjoyed.
 - Brainstorm reasons why audiobooks are an excellent genre of literature for students with physical impairments.
 - Demonstrate how to safely, securely, and ethically use the Internet for communication, creativity, collaboration, critical thinking and problem solving.
 - Brainstorm safety and security issues when utilizing online resources.
 - Discuss the creation of personal online images and the audiences that may view them.
 - Outline the causes and effects of cyberbullying.
 - Review the definition of copyright and illustrate examples of the consequences of the infringement of this law.
 - Demonstrate the ability to locate, evaluate and utilize online materials.
 - Model the proper use of scholarly databases, OPAC (Online Public Access Catalog), WebPath Express and the World Wide Web.
 - Model evaluation process of online materials.
 - Identify the bibliographic information that goes into a works cited page and create a citation for a website.
 - Demonstrates the ability to locate, evaluate and utilize print materials.
 - OPAC will be reviewed as the tool to locate print materials.
- Student will evaluate print materials in relation to his or her information needs.
- Using our online library management software, create a resource list to aid in the location of specific materials within the library media center.
 - Locate the print reference tools within the library media center as well as their electronic counterparts.
 - Identify the uses and types of dictionaries.
 - Identify the bibliographic information that goes into a works cited page and create citation for a book, encyclopedia and a magazine.

Secondary Grades 7-12

- The arrangement of the physical library will be reviewed.
- The library website and all its electronic resources will be reviewed.
- OPAC (Online Public Access Catalog) will be reviewed as the tool to locate print materials.
- Student will evaluate print materials in relation to his or her information needs.
- Demonstrates the ability to locate, evaluate and utilize online materials (i.e. scholarly databases, eBooks, and websites).
- Model proper use of scholarly databases, eBooks, and websites.
- Model evaluation process of online materials.
- Instruct users on the importance of Internet safety.
- Demonstrate the use of a research process model such as the Big6™.
- Demonstrate how to safely, securely, and ethically use the Internet for communication, creativity, collaboration, critical thinking and problem solving.
- Brainstorm safety and security issues when utilizing online resources.
- Discuss creation of personal online images and the audiences that may view them.
- Outline the causes and effects of cyberbullying.
- Demonstrates characteristics of an information literate, independent learner by engaging in literature appreciation.
- Assist students in becoming cognizant of their personal reading interests.
- Demonstrate use of sources like booklists, professional book reviews, author websites, reader advisory websites and library advertising to increase the success of book selection.

Library Department Goals and Spending Allocation Plan

2016- 2017 Library Department Goals:

- Lead school community in the age of information overload to the best possible resources (print and digital) to meet educational outcomes.
- Implement the K-12 Library Curriculum while facing a variety of challenges (K-5 instructional minutes are not ideal for providing the rigorous content contained in the curriculum while also allowing for book selection. Secondary libraries have limited fixed scheduled times in which to deliver the curriculum so creativity and team teaching is a necessity.)
- Weed Current Collection in dated/ damaged areas of each library.
- Analyze current collection and update collection with input from the staff and students.
- Educate school communities on the features of new databases.
- Provide a safe environment for our students to come to complete assignments and access information and or books for educational and personal interests.
- Provide programing that fosters a love of literature (Book & Dine events, Teen Read Week events, Reading Olympics, Family Literacy Night, etc.)

Team's Plan for Utilizing the Additional Allocation

School Library	Library Spending Allocation Plan
Lehman	Nonfiction, concentrating in 500s (Natural Sciences) and 700s (Arts and Recreation) sections
Bushkill	Focus on 600s (Science and Technology) ; also looking at nonfiction as a whole
JTL	Focus on E-books as per building administrator's directive and in support of the one to one initiative, Print focus in the areas of 700s (Arts and Recreation) and 900s (Major focus on biographies)

JM Hill	Nonfiction: 400s (Languages) to support bilingual students and ELL Program, and an influx of new Fiction/Easy Fiction popular titles. (This building has not received book allocations for several years and needs to use these funds to help build a balanced collection, reflecting both fiction and nonfiction, which support classroom goals and personal interest reading. In addition this addresses the components of fiction and nonfiction covered in the Library curriculum)
Smithfield	Nonfiction: 790s Sports, and 398s Fairy Tales/Folktales, as well as replacing Fiction/Easy books that are in poor condition
Resica	Nonfiction in general to help supplement background knowledge for the Reading Wonders program utilized by classroom teachers(Priority given to vendors that provide free ebook access with each print copy) , concentration in 500s (Natural Sciences) replacing worn titles and updating current offerings, 900s (Geography and History) enhancing and updating current titles, 600s (Technology) enhancing and updating technology titles, replace worn and get new requested fiction titles to support the library curriculum: establish a love of literature goal.
Middle Smithfield	Mostly nonfiction books. The majority in the 500s (Animals), 700's (Sports and Recreation) and 900s focusing on biographies.
ESE	Focus on improving nonfiction section, placing emphasis on biographies, 500s, 600s, 700s, and 900s.
EHN	Nonfiction titles to replace damaged and dated titles that are weeded. Focus on the technology and science sections of the library.
EHS	Nonfiction titles to replace damaged and dated titles that are weeded. Focus on Reference (Priority given to vendors that provide free ebook access with each print copy), 600s (Technology and Science) sections of the library, concentration in 700s (Arts and Recreation), and 900s (Biographies)

Note:

*Nonfiction titles will make up a majority of the titles purchased with the additional funding

*Titlewise collection analysis reports will be used to assist in determining areas that are the most outdated

*Circulation reports and knowledge of recurring research assignments conducted by classroom teachers will also drive collection development decisions

*Lightbox and Salem Press titles that offer print and eBooks for one price will be considered based on input from classroom teachers as to potential usage.

Justification for the Library Spending Allocation Plan

All of the areas outlined in the table above address a specific area of our Library Curriculum, and also support PA Common Core and Classroom Curricula.

The specific Library Goal; Lead school community in the age of information overload to the best possible resources (print and digital) to meet educational outcomes is the major goal being addressed with this funding plan.

For example, one of the Big Ideas in our curriculum states “An appreciation of literature is essential to connecting text to real world experiences and enriching the acquisition of content area knowledge.” Under this heading appreciation of literature can be developed through recognition of a variety of genre in the collection that augments classroom resources and expands personal interests. It further states that appreciation of literature can be developed through recognition of well- known authors and titles for the assigned grade level.

The Library Curriculum also addresses the difference between fiction, biography and nonfiction and teaches the process by which students can locate both fiction and nonfiction for their own purposes. Students learn the differences between the organization in fiction and nonfiction texts.

The library curriculum stresses using the Big6 Research Model along with nonfiction texts to address content area learning requirements. Secondary librarians must teach research skills in conjunction with classroom curricula. Secondary teachers make use of the library when there are materials there that support their teaching objectives.

In addition to our Library Curriculum, a great deal of what is driving our Spending Allocation Plan is coming from data collected from teacher input and our knowledge of teachers’ past usage of materials, in support of their curricula.

PA Common Core Goals the support our Spending Allocation Plan include:

- Standard - CC.1.2.3.L: Read and comprehend literary nonfiction and informational text
- Standard - CC.1.3.3.K: Read and comprehend literary fiction

Meeting the demands of all of these curricular goals depends on having quality resources which we plan to purchase with these funds.

d. Basic Ed Funding Formula

**BASIC EDUCATION FUNDING (BEF) FORMULA
HERE'S HOW IT WORKS**

Total Weighted Student Count x
Median Household Income Index (MHII) x
Local Effort/Capacity Index =
Total Student Weighted Average Daily Membership x \$120.48 =

2016/2017 Student Weighted BEF Distribution

WHY \$120.48

\$352,398,832 (Additional BEF) / 2,924,890.473 (total weighted student count for all 500 districts) = \$120.48

ESASD

$8,823.298 \times 0.9046 \times 1.85 = 14,765.877 \times \$120.48 = \$1,779,033$

Our share of the additional BEF for 2016-2017 + \$13,203,911 (14-15 base)
= \$14,982,944 (ESASD BEF for 16-17)

TOTAL WEIGHTED STUDENT COUNT

3 year average daily membership with adjustments

	ESASD	Lower Merion	York City
3 year average	7,451.25	7,687.203	7,737.040
Poverty	8	127.417	3,996.985
English Language Learners	1,272.35	54.600	5.825
Charter School	4	97.800	386.398
Sparsity/Size	0.000	0.000	956.400
	8,823.29	0.000	13,076.82
	8	7,918.245	3

MEDIAN HOUSEHOLD INCOME INDEX

	Median Household Income	Index
York City	\$28,819	1.8431
ESASD	\$58,719	0.9046
Lower Merion	\$111,956	0.4744
State Median	\$53,115	1.0000

LOCAL EFFORT / CAPACITY INDEX

York City 2.20 ESASD 1.85 Lower Merion 0.69

2016/2017 DISTRIBUTION

	Weighted Student Count	Median Household Income Index	Local Effort Capacity Index	Student Weighted Membership	Distribution per Weighted Student	Student Weighted Distribution
York City	13,076.82	1.8431	2.20	53,024.163	\$120.48	\$6,388,497
ESASD	8,823.298	0.9046	1.85	14,765.877	\$120.48	\$1,779,033
Lower Merion	7,918.245	0.4744	0.69	2,591.927	\$120.48	\$312,282

f. 2017-18 Budget Resolution

2017 – 2018 BUDGET RESOLUTION

The ESASD Board of Directors directs the administration to develop and present for approval a 2017-2018 budget that maintains property taxes at the same level as approved for the 2016-2017 budget

- i. Property & Facilities Items
 - i. Indoor Air Technologies-Pay App #1 Final - \$118,000

APPLICATION AND CERTIFICATE FOR PAYMENT

TO (Owner):

East Stroudsburg Area School District
 50 Vine Street
 East Stroudsburg, PA 18301

VIA (ARCHITECT):

Indoor Air Technologies, Inc.
 61 School Street, Suite B
 Victor, NY 14564

PROJECT: Middle Smithfield Elementary

PERIOD TO: 11/30/16

PROJECT NO: ESASDMMMA1617

APPLICATION NO: 001

Distribution to:	OWNER
	CONST. MNGR.
	ARCHITECT
	ENGINEER
	CONTRACTOR
	FIELD

CONTRACT FOR: Mold Abatement

CONTRACT DATE: 9/1/2016

CONTRACTOR'S APPLICATION FOR PAYMENT

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Change Orders approved in previous months by Owner		\$0.00	\$0.00
TOTAL			
Approved this Month			
Number	Date Approved		
TOTALS		\$0.00	\$0.00
Net change by Change Orders		\$0.00	\$0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

Indoor Air Technologies, Inc.

By:

Date: 11/10/16

Robert S. Melton, President

Application is made for Payment, as shown below, in connection with the Contract Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM \$ 118,000.00
2. Net change by Change Orders \$ -
3. CONTRACT SUM TO DATE (Line 1 + 2) \$ 118,000.00
4. TOTAL COMPLETED & STORED TO DATE \$ 118,000.00
(Column G on G703)

5. RETAINAGE:

- a. 0% of Completed Work \$ -
(Column D + E on G703)
- b. of Stored Material \$ -
(Column F on G703)

6. TOTAL EARNED LESS RETAINAGE \$ 118,000.00
Total Retainage (Line 5a + 5b or Total in Column I of G703) \$ -
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) \$ -

8. CURRENT PAYMENT DUE \$ 118,000.00
9. BALANCE TO FINISH, PLUS RETAINAGE \$ -
(Line 3 less Line 6)

State of: New York County of: Ontario
 Subscribed and sworn to before me this 14 day of November 20 16
 Notary Public:
 My Commission expires: *Kimberly A. Swartz*
 Notary Public, State of New York
 Registration #01SW6321653
 Qualified In Monroe County
 Commission Expires March 23, 2019

AMOUNT CERTIFIED \$118,000.00
 (Attach explanation if amount certified differs from the amount applied for.)
 ARCHITECT:

By: _____ Date: _____
 This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AIA DOCUMENT G702 * APPLICATION AND CERTIFICATE FOR PAYMENT

THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, N.W., WASHINGTON, D.C. 20006

CONTINUATION SHEET

AIA DOCUMENT G703

CONTRACTOR: Hosler Corp.
PROJECT: Lock Haven Parsons

APPLICATION NO.: 6/3/2016
APPLICATION DATE: 6/3/2016
PERIOD TO:
PROJECT NO.: 016-002-050

Contractor: Indoor Air Technologies, Inc

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		E THIS PERIOD	F MATERIALS PRESENTLY STORED (NOT IN D O R E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H BALANCE TO FINISH (C-G)	I RETAINAGE
			FROM PREVIOUS APPLICATION (D+E)	THIS PERIOD					
1	Mold Abatement Project	\$ 118,000.00	\$ -	\$ 118,000.00	\$ 118,000.00	\$ -	\$ 118,000.00	\$ -	\$ -
2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GRAND TOTALS		\$ 118,000.00	\$ -	\$ 118,000.00	\$ 118,000.00	\$ -	\$ 118,000.00	\$ -	\$ -

- i. Property & Facilities Items
 - ii. JTL Masonry Investigation – DEI Invoice - \$5,550



D'HUY Engineering, Inc.
 One East Broad Street, Suite 310 Bethlehem, PA 18018
 Phone: 610.865.3000 Fax: 610.861.0181

INVOICE

No. 45395
 10/31/2016

East Stroudsburg Area School District

50 Vine Street
 East Stroudsburg, PA 18301
 Mr. Jeffrey Bader

J. T. Lambert Intermediate School Masonry Investigation
287005
 For Services Rendered From September 24, 2016 To October 28, 2016

01 - Field Surveys & Probes

Contract Amount	Previously Billed	% Complete	Invoice Amount
\$25,400.00	\$25,400.00	100.00	\$0.00

02 - Analysis & Report

Contract Amount	Previously Billed	% Complete	Invoice Amount
\$18,500.00	\$1,850.00	40.00	\$5,550.00

03 - Natatorium at High School North

Contract Amount	Previously Billed	% Complete	Invoice Amount
\$5,000.00	\$5,000.00	100.00	\$0.00

INVOICE TOTAL \$5,550.00

32-4600-450-034-30-32-08

JT2 - Bldg Imp. Masonry Repair

- i. Property & Facilities Items
 - iii. RES & BES Access Control Proposals-Gilbertson Group - \$20,716

**Access Control Project
Bushkill and Resica Elementary Schools**

Vendor	CSI	Integrated Security & Communications	Low V Systems	Gilbertson Group	NextGen Security	Security and Data Technologies, Inc.	Vector Security
Address	4670 Schantz Road, Allentown, PA 18104	5 Commerce Way, Hamilton, NJ 08690	5 E. Allen St. Mechanicsburg, PA 17055	101 Cheshire Court, Coatesville, PA 19320	770 Pennsylvania Drive, Suite 120 Exton, PA 19341	101 Phesant Run, Newtown, PA 18940	23 Casey Ave. Wilkes-Barre, PA 18702
Contract/Notes	PEPPM	Is not on any PA State or Federal Contract pricing. Over PA bid threshold of \$19,400	CO-STARS (quote not broken down by line item)	CO-STARS	No pricing on traditional Access Control (only PoE solution)	No pricing on traditional Access Control (only PoE solution)	Contacted - Not able to quote
BUSHKILL							
Parts (Core Equipment)	\$ 3,880.83	\$ 3,216.62		\$ 4,079.00			
Cabling/Misc Hardware	\$ 1,445.11	\$ 348.00		\$ 1,590.00			
Door Hardware	\$ 3,684.27	\$ 2,390.91		\$ 1,920.00			
Labor	\$ 2,971.80	\$ 4,199.95		\$ 1,980.00			
Project Management	\$ 2,700.00	\$ 1,200.00		-			
Shipping (if applicable)	\$ -	\$ 90.28		-			
TOTAL	\$ 14,682.01	\$ 11,445.76	\$ 11,021.00	\$ 9,569.00			
RESICA							
Parts (Core Equipment)	\$ 3,880.82	\$ 4,103.98		\$ 4,898.00			
Peripherals/Misc Hardware	\$ 1,445.11	\$ 681.76		\$ 1,590.00			
Door Hardware	\$ 3,684.27	\$ 2,989.08		\$ 2,319.00			
Labor	\$ 3,196.80	\$ 3,779.96		\$ 2,340.00			
Project Management	\$ 2,700.00	\$ 1,200.00		-			
Shipping (if applicable)	\$ -	\$ 114.59		-			
TOTAL	\$ 14,907.00	\$ 12,869.37	\$ 13,341.00	\$ 11,147.00			
GRAND TOTAL	\$ 29,589.01	\$ 25,738.74	\$ 24,362.00	\$ 20,716.00			

Compiled by:
Brian J. Borosh
Director of Technology
November 22, 2016



TO Brian Borosh
East Stroudsburg School District
FROM Sean Gariti
DATE 18-Nov-16
RE Resica and Bushkill Elementary School Access Control Upgrades - "Parts and Smarts"

Thank you for the opportunity to be of assistance. I'm pleased to provide pricing for access control equipment and programming for a Honeywell ProWatch upgrade. TGG is a COSTARS member and our number is 012-156.

This proposal is based on The Gilbertson Group Standard Installation Guidelines unless otherwise indicated and is attached for your review.

The Gilbertson Group (TGG) will provide equipment (school to determine which items and quantities) and a Honeywell certified technician to connect head end equipment and program the new access doors. It was discussed that TGG would be able to VPN into the schools ProWatch system to program the panels/doors, this will provide a cost savings for travel. The school will run all wiring, mount and connect all required door peripherals (electric locks, RTE devices, door contacts, and card readers), mount head end panels, and provide all power and network connections. As required, TGG will provide technical support and direction to the school to assist with the install (phone support - device wiring schematics).

Resica Elementary School: One (1) four door ProWatch kit and one (1) single door PoE controller will be provided to control the five (5) total access doors. Power supplies, batteries, cables, and other associated head end equipment is line itemed. Door peripheral equipment is line itemed per the School Districts direction.

Please refer to the following for a listing of the equipment and services required.

Resica Elementary School

<u>Qty</u>	<u>Description</u>	<u>Cost</u>	<u>Total Cost</u>
	Head End Equipment		
	PW6KRD4 4 Door Kit- PW6K11C Intelligent Controller, (2) PW6K1R2 Dual Reader Boards, PW5K1DCC Daisy Chain Cable, Pw5K2ENC1 High Density Enclosure, PW6K2E2PS Power Supply, 712 Battery, and (4) S4 Suppressors		
1	PW6K11CE Single Door PoE Intelligent Controller (Pod)	\$ 3,325.00	\$ 3,325.00
1	S4 Suppressor (Pod)	\$ 604.00	\$ 604.00
1	AL600ULACM Lock Power Supply 8 Doors	\$ 19.00	\$ 19.00
2	PS1270 Battery	\$ 270.00	\$ 270.00
1	AL100UL Lock Power Supply (Pod)	\$ 20.00	\$ 40.00
1	PS1270 Battery (Pod)	\$ 65.00	\$ 65.00
		\$ 20.00	\$ 20.00
	Peripheral Device Pricing		
4	Latch Retraction Kit for Sergeant 80 Panic Bar	\$ 370.00	\$ 1,480.00
1	9600-1224-630 Electric Strike	\$ 302.00	\$ 302.00
4	TSBC Door Cord	\$ 22.00	\$ 88.00
5	DS160 RTE Motion Detector	\$ 70.00	\$ 350.00
11	1078C 3/4" Recessed Door Contact (contact on all access doors opening to include inactive leaf for reporting purposes)	\$ 9.00	\$ 99.00
5	OP30HON Slim Mullion Mount Card Reader	\$ 111.00	\$ 555.00
3	620688-500 Honeywell Spec Wire Bundle 500ft Plenum Rated	\$ 530.00	\$ 1,590.00
	Subtotal		\$ 8,807.00
	Labor:		
1	Gilbertson Group Labor		\$ 2,340.00
	Subtotal		\$ 2,340.00
	Total Cost for Resica Elementary School		\$ 11,147.00



Bushkill Elementary School: One (1) four door ProWatch kit will be provided to control the four (4) total access doors. Power supplies, batteries, cables, and other associated head end equipment is line itemed. Door peripheral equipment is line itemed per the School District's direction.

Please refer to the following for a listing of the equipment and services required.

Bushkill Elementary School

<u>Qty</u>	<u>Description</u>	<u>Cost</u>	<u>Total Cost</u>
Head End Equipment			
	PW6KRD4 4 Door Kit- PW6K1IC Intelligent Controller, (2) PW6K1R2 Dual Reader Boards, PW5K1DCC Daisy Chain Cable, Pw5K2ENC1 High Density Enclosure, PW6K2E2PS Power Supply, 712 Battery, and (4) S4		
1	Suppressors	\$ 3,325.00	\$ 3,325.00
1	AL600ULACM Lock Power Supply 8 Doors	\$ 270.00	\$ 270.00
2	PS1270 Battery	\$ 20.00	\$ 40.00
Peripheral Device Pricing			
4	Latch Retraction Kit for Sergeant 80 Panic Bar	\$ 370.00	\$ 1,480.00
4	TSBC Door Cord	\$ 22.00	\$ 88.00
4	DS160 RTE Motion Detector	\$ 70.00	\$ 280.00
8	1078C 3/4" Recessed Door Contact	\$ 9.00	\$ 72.00
4	OP30HON Slim Mullion Mount Card Reader	\$ 111.00	\$ 444.00
3	620688-500 Honeywell Spec Wire Bundle 500ft Plenum Rated	\$ 530.00	\$ 1,590.00
	Subtotal		\$ 7,589.00
Labor:			
1	Gilbertson Group Labor		\$ 1,980.00
	Subtotal		\$ 1,980.00

Total Cost for Bushkill Elementary School

\$ 9,569.00

General Notes:

- Work completed with non-union labor during normal business hours M-F 0700-1730
- All taxes and shipping charges will be applied to final invoice
- Free and clear access and pathways by others
- Power, network connections, static IP addresses, and phone lines by others
- Permit costs not included, if required, permits will be billed additionally
- Any adds, moves, changes or delays may result in additional costs
- Network issues outside of TGG's control, resulting in delays, can be billed additionally
- All peripherals and wiring done by others
- All panels mounted by others
- ProWatch licenses by others
- Availability to remotely connect to ProWatch server

A signed copy of this document, along with a purchase order in the amount of this proposal, will serve as authorization to proceed. The Gilbertson Group (TGG) will submit a prepayment parts invoice for 50% of the total parts amount. The remaining 50% will be billed upon delivery of the equipment. Labor will be invoiced 100% upon completion of the work. TGG will not be held responsible for schedule slippage due to actions not under its control. Any additional equipment or services requested will be billed additionally on a time and material basis. This proposal is valid for sixty (60) days from the date proposed.

I agree to the terms and information presented in this proposal:

Signature	Printed Name	Date	Purchase Order #
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- i. Property & Facilities Items
- iv. JTL & LIS Masonry Investigation Reports



November 21, 2016

Mr. Scott Ihle
Director of Facilities
East Stroudsburg Area School District
50 Vine Street
East Stroudsburg, PA 18301

RE: East Stroudsburg Area School District
J.T. Lambert Intermediate School Masonry Investigation
DEI Project No. 287005

Dear Mr. Ihle,

The following report summarizes our investigation of the masonry facade problems at the J.T. Lambert Intermediate School located in Smithfield Township, PA. The photographs and sketches referenced in the following report are provided in Appendices A and B, respectively.

1. BACKGROUND

Constructed in 1990-1991, the Intermediate School is a three story steel framed structure clad with brick masonry, architectural stone units, framed (punched) windows, glass storefront areas and cast stone. In the 25 years since its completion, various areas of the building envelope have developed significant signs of deterioration. These areas of deterioration are observed in brick, cast stone components, steel lintels, masonry site walls and sealant joints.

Based on the above, DEI was engaged to conduct a condition assessment of the building envelope to evaluate and determine the causes of deterioration, assess the extent of component damage and develop a preliminary scope and budget for restoration. This investigation phase included close-up observations of conditions using a manlift and cutting probes into various envelope components to facilitate a detailed analysis of the causes of facade deterioration.

The building envelope condition assessment as summarized in this report is considered Phase 1 of this project. Pursuant to the findings of this study and report, a second phase will be required for the purpose of developing bid documents for restoration and rehabilitation work and executing construction administration services during the restoration work.

2. SCOPE OF STUDY

As part of this condition assessment study, DEI performed the following scope of work:

1. Reviewed architectural and structural drawings from the original construction provided by the Facilities Department.

2. Performed field surveys as required to visually assess and obtain photographic documentation of existing conditions and determine as-built construction details. As part of our investigation, DEI performed the following field surveys:
 - a. Preliminary survey on February 18, 2016: Performed a general survey of exterior facade conditions from the adjacent ground and roof areas to obtain preliminary documentation of site and building conditions.
 - b. Detailed survey on June 10, 2016: Performed close-up examination of the exterior facade components using binoculars from the ground and from accessible roofs areas. Identified locations where probe openings should be made to further assess existing conditions.
 - c. Manlift and Probe survey on June 30, 2016: Performed close-up examination of upper areas of the exterior facade components from a high reach man lift. Oversaw and documented investigative probes into the masonry facade. Probe work was performed by C & D Waterproofing, Inc.
 - d. Photographic Documentation: Photographs were taken to document existing conditions of the exterior facade components and details. Over 500 photographs were taken, including photographs of all elevations and close-ups of masonry areas and selected details.
3. Performed probe openings at selected locations around the building as noted above. Sketches SK-1 through SK-3 identify probe locations on building elevations and site walls. Probe work was executed as follows:
 - a. Masonry components were opened up by selective demolition at twenty-six (26) locations to determine existing construction details. Openings were made systematically to study the condition of masonry units and mortar, assess the presence of moisture in the wall; evaluate flashing location and details, and verify veneer anchoring systems.
 - b. As-constructed details were determined through the probe process and compared to the details provided on the original construction drawings.
4. Evaluated and analyzed data obtained from drawing reviews, probes and field surveys.
5. Evaluated repair options to address the various areas of deterioration and water intrusion issues.
6. Developed rehabilitation and retrofit concepts.
7. Prepared preliminary budget estimates for proposed rehabilitation work.
8. Prepared a report, summarizing findings, recommendations for remediation and budget estimates associated with executing recommended repairs.

3. DESCRIPTION OF BUILDING EXTERIOR

J.T. Lambert Intermediate School consists of a three story classroom wing, a center core area with auditorium, library and cafeteria areas, adjacent building areas consisting of the gymnasium and industrial arts classrooms, and an attached music and art wing. The total building area is approximately 185,000 square feet. The masonry clad exterior walls of the steel framed structure consist of a brick and architectural stone veneer tied back to cold formed steel stud walls extending from the foundation to the roof level (Photos 1, 2 and 3).



Masonry materials used for veneer construction consist of two varieties, economy brick and architectural stone. The economy brick is $3\frac{5}{8}$ " wide, $3\frac{5}{8}$ " high and $7\frac{5}{8}$ " long with a red glazed face. The architectural stone is a cast material, $3\frac{5}{8}$ " wide, $7\frac{5}{8}$ " high and $15\frac{5}{8}$ " long with a textured, buff colored face. Cast stone accent pieces are utilized at all window sills, at all three classroom wing entrances (roof level and lower sill areas - Photo 4) and for site wall coping caps (Photo 5). Original drawings indicate that cast stone copings were utilized to cap most building walls in the original construction; however, many of these cast stone caps have since been replaced with bronze colored aluminum coping caps.

Large aluminum storefront window systems and smaller punched window openings are provided around the perimeter of the building. There are multiple existing site walls around the building, some of which surround planting areas and others that also serve as fall protection along ramps and around patio areas.

4. FINDINGS

4.1 Cavity Wall Drainage System

The typical exterior masonry cladding on the J.T. Lambert Intermediate School is designed as a cavity wall system. The brick and architectural stone veneer is intended to be the primary weather barrier. Any water which penetrates through the brick or architectural stone enters the hollow cavity between these exterior veneer units and the steel stud and sheathing back-up wall. It is expected that this water will flow down the back of the veneer units and collect at the flashing at the next horizontal obstruction, typically at window heads or other flashing lines. These flashings are intended to collect the water and direct it back out of the wall through weeps holes.

In a number of areas, however, the drainage system in the cavity walls is not functioning as intended. Water that penetrates the outer masonry veneer is either not being contained at the flashings or the water is not able to exit the wall through the provided weep holes. As a result, the water inside the cavity is bypassing the flashing and continuing down through the wall system; or creating its own path to the exterior through mortar joints and masonry units, or collecting on the steel lintels above windows, curtainwalls and other fenestration areas.

The failure of the cavity wall drainage system can be attributed to the following factors:

1. The flashings that were installed at various steel lintel locations do not extend through the cavity and out beyond the surface of the brick or architectural stone units. The flashings were terminated in the cavity behind the exterior face of the veneer masonry units (Photo 6 from probe #23 and Photos 7 and 8 from probe #19). In this condition, the steel lintel assemblies are unprotected from moisture, and the water that collects in the cavity can flow back under the flashing and sit on top of the lintel without being expelled from the wall (Reference Detail A on sketch SK-4).
2. Continuous drip edges were not provided at flashing edges. Drip edges are important because they cause water that exits the wall at the flashing line to drip clear of the building face (Reference Detail B on sketch SK-4). In the absence of drip edges, the water is able to return back along the underside of the steel lintels via surface tension and promote corrosion deterioration (Photos 9 and 10).

3. The flashing above window head areas is not turned up or dammed at its ends. Water which reaches the flashing can flow horizontally to the ends of the flashing and then down into the wall structure. This condition was observed at window openings in areas of the brick veneer (Photo 11 from probe #14).
4. At some locations, the weep tubes were not located directly on top of the flashing, but on top of the mortar joints, which results in cavity water having to build up on the flashing before it can drain out of the wall (Photo 12).
5. At some locations sealant was applied between the lintel and the veneer units above, trapping moisture on the lintel assembly behind it (Photos 13 and 14).

Addressing cavity wall construction at the areas of masonry veneer deterioration will be a critical aspect of the rehabilitation program in order to mitigate against the following:

- The potential for future rusting of the steel lintels, wall reinforcement and wire ties.
- An increased rate of mortar joint deterioration due to the accumulation of moisture in the cavity and associated freeze-thaw action.
- The accelerated deterioration of the brick and architectural stone veneer units.
- Affects incurred over time at the interior space of the building resulting from increased moisture in the wall systems.

Similar conditions with regard to flashing and weep hole installation were found to be consistent at all locations explored. These cavity wall construction deficiencies are contributing to the problems observed in the facade. Moreover, since these flashing and drainage deficiencies are built into the wall construction, they are difficult and expensive to correct. In this instance, the most feasible approach to addressing these issues short of full veneer replacement is to remove the veneer masonry at areas of deterioration and reinstall new masonry veneer with appropriate flashing and weep system details.

4.2 Cast Stone Pieces

Cast stone is manufactured using cementitious materials to replicate the look of limestone. The process typically involves using two different cement based components: a facing mix, and a concrete backing material. The facing mix, which is visible on all exposed surfaces, uses a white cement containing a combination of aggregates such as crushed granite, marble and natural quartz sand to produce a uniform limestone like surface. This facing mix is first troweled onto the bottom and sides of the mold (the pieces are manufactured upside down). A lean concrete backing material is then placed into the form on top of the facing mix. The material in the mold is compacted using a manually operated vibrating tamper, then the mold is removed and the unit is cured in a curing chamber.

Unfortunately, cast stone material has experienced problems on many projects constructed in the early 1990's. We have investigated a number of such projects and observed deterioration identical to that observed at the J.T. Lambert school. This deterioration is typically associated with a phenomena known as alkali-silica reaction (ASR). This reaction is caused by some of the natural gravel course aggregates used in the lean concrete backing material, specifically a gravel named chert. Chert is an unstable aggregate known to be highly reactive in alkaline Portland cement paste. The resulting alkali-silica reaction produces a gel that forms around the chert aggregate. The formation of the gel results in an increase in the volume of the chert material and strong, expansive forces are created. The build-up of internal tensile



stresses can result in deleterious cracking within several years of casting. Since ASR is promoted by the presence of moisture, and crack development increases moisture intrusion, the rate of ASR and associated cracking can be expected to accelerate over time.

On this project, the cracking described above was observed at all three classroom wing entrances (Photos 15 and 16) and at site wall coping caps (Photos 17 and 18). In addition, it is evident by the staining and brick deterioration observed at various top of wall areas on the building (Photos 19 and 20), as well as from our review of the original drawings, that cast stone copings were utilized to cap some of the building walls in the original construction. Most of these original cast stone caps have since been replaced with bronze colored aluminum coping caps. Interestingly, cast stone window sills currently do not evidence signs of ASR.

With the exception of the window sills, the extent of existing deterioration along with the above noted destructive material deficiencies preclude any means of repair other than removal and replacement. The conditions at window sills and site walls are discussed in more detail below.

4.3 Window Heads

There are approximately 97 window openings around the building. Windows consist typically of double hung units 3'-4" in width that are arranged in multiple units up to a maximum overall width of 13'-4". Brick masonry above these window openings is supported on steel lintels that span across the opening and bear on the brick masonry at each side of the window. Masonry Probes #2, #4, #5 and #14 were made above and adjacent to window heads. At each of these probes, existing flashing and weep holes are present, but they are not functioning properly due to the conditions noted above under section 4.1. This has resulted in the corrosion of steel lintels at some window head locations (Photo 21).

As steel undergoes rusting, iron molecules are converted to iron oxide molecules, which take up more space than the original iron molecules, resulting in the expansion of the steel element. When this occurs on steel elements embedded in masonry, large lifting forces and accompanying stresses are produced in the surrounding masonry. On this building that has resulted in cracks and widening of the mortar joints at some of the lintel ends (Photo 22). Retrofit for this condition will require removing the brick veneer in the areas of the steel lintel, reinforcing the steel lintel if necessary, installing flashing and weeps to protect the steel from future corrosion and rebuilding the brick veneer.

We did observe some locations where the membrane flashing was extended beyond the toe of the steel lintel angle, protecting the top surface from water, and with a drip that expels water away from the underside of the angle. At these locations the steel lintel remains in good condition (Photo 23).

4.4 Window Sills

Cast stone sill pieces are located below window openings. The sill units are typically 3'-4" in length and are arranged in multiple units consistent with the window unit installations as noted above. The head joints between sill pieces are filled solid with mortar and sealed at the surface of the joint with an elastomeric sealant, which is in various stages of deterioration. The sills bear directly on masonry veneer units below. Unlike other cast stone elements around the site, the sill units appear to be in good condition. Based on our field surveys and probes, flashing and weep holes are provided under the first course below sill locations. Masonry Probes #6 and #15 were made to confirm flashing below sill pieces. Flashing was found at both locations and was observed to be terminated approximately $\frac{5}{8}$ " back from the exterior face

of the brick veneer (Photo 24). There is no steel in this area that could be subject to corrosion deterioration.

There is a drip profile formed at the underside of the cast stone sill so that water running down over the sill will drip clear of the masonry below the sill (Reference Detail B on sketch SK-5). At a number of locations, the drip has been covered over with sealant (Photo 25) or mortar (Photo 26), which has resulted in water returning back under the sill and following the sealant down onto the masonry veneer below the sill (Reference Detail A on sketch SK-5). This chronic wetness experienced in some brick masonry areas below the window sills is causing fungal growth and associated staining (Photo 27).

4.5 Lintels at Storefront and Louver Heads

Steel lintels above storefront window systems and above metal louvers on the exterior wall of the boiler room are flashed similar to those above window heads in that the flashing does not extend fully over the steel (Photos 28 and 29). At these locations however, the detail is made worse by the application of a sealant joint between the top of the storefront (or louver) frames and the underside of the brick above. This sealant joint traps moisture on top of the steel lintel resulting in severe deterioration of the steel at these locations (Photos 30 and 31). The buildup of corrosion product on the angle above one of the louvers is so extensive it has caused deformation in the top of the louver frame below (Photo 32). The storefront areas are also known to be locations of water intrusion into the building. In addition to brick removal and re-flashing of these areas, it may be necessary to reinforce or replace the steel lintels due to the significant loss in their cross-sectional area as a result of corrosion deterioration.

4.6 Brick Spalling and Efflorescence

Efflorescence and brick spalling were observed at various locations around the building (Photos 33 and 34). Efflorescence is a white, powder-like deposit caused by soluble minerals within the wall being carried to the face of the wall by moisture and deposited as residue when the water evaporates. These mineral deposits evidence not only the penetration of water into the masonry walls, but more problematically indicate that the walls may not be sufficiently expelling it. Brick spalling occurs typically in cold, wet climates. When brick is exposed to water consistently, some of the water is absorbed through the porous material of the brick. When this water freezes and thaws repeatedly, it causes the face of the brick to crack and fall apart. The amount of damage is dependent on the amount of water, the absorption characteristics of the brick, and the number of freeze/thaw cycles. Given the amount of efflorescence and spalling observed at various locations around the building, it is apparent that at these locations, the brick masonry was exposed to chronic and significant moisture.

Based on our drawing review and site visits, it appears that the wall areas of most severe deterioration were originally capped with cast stone coping pieces. It is likely that cracking and deterioration of the cast stone copings due to ASR, facilitated the entry of large quantities of water into the tops of these walls, saturating the brick veneer and resulting in excessive efflorescence and spalling. Nearly all of the areas that exhibit this deterioration are located on the upper portions of the wall. Most cast stone coping pieces have since been replaced with metal coping pieces.

4.7 Site Walls

There is approximately 850 linear feet of site walls at the north (front) and west elevations (Reference sketch SK-3 for site wall locations highlighted in green). These walls vary in height from approximately 2' to 9' and appear to be constructed with a reinforced concrete interior wall, then clad on both sides with



architectural stone block and capped with cast stone coping pieces (Photo 35). Probes performed into the veneer areas of two site walls (probes #25 and #26) revealed that there are masonry wall ties connecting the architectural stone veneer back to the concrete structural wall behind the veneer. The site walls currently exhibit severely deteriorated masonry with freeze-thaw damage, broken mortar joints, loose masonry that is no longer bonded together, cracks in the masonry, and spalling masonry units.

The cast stone caps have experienced significant cracking and deterioration, primarily as a result of ASR. The cracks have allowed water to directly penetrate through the cast stone. In a number of locations, the deterioration is severe (Photo 36). In addition, water has also entered at joints between the caps resulting in freeze-thaw deterioration, shifting of the caps and causing further separations of the head joints between the pieces (Photo 37). Where caps have shifted, the bed joint below the caps has fractured allowing large amounts of moisture into the wall system.

A broken piece of cast stone cap was removed to observe the flashing conditions below the cap. A stainless steel flashing is present below the caps; however, the flashing is held back 2" from the exterior face of the veneer below (Photo 38). Thus, water entering through cracks or joints in the caps drains off either side of the flashing directly into the top of the architectural stone veneer (Reference sketch SK-6). As damage occurred in the veneer, more openings were created which further increased moisture intrusion and additional deterioration (Photo 39).

The severe damage observed in the site walls has resulted from the omission of a proper flashing below the cast stone caps, material deficiencies in the cast stone, and cavity wall drainage problems in lower areas of the wall. The damage to these site walls is severe and warrants the rebuilding of the masonry veneers on both sides of these walls as well as the installation of effective flashing and replacement of the coping cap pieces.

4.8 Pocketed Beams at Grating Walkway

The metal grating walkway that exists just outside the kitchen area is supported by structural steel tubes, which are pocketed into a concrete retaining wall at the south end of the walkway. These beam ends were not properly flashed and are evidencing severe signs of corrosion deterioration. This has also resulted in the spalling and deterioration of the surrounding concrete at the beam pocket locations (Photos 40 through 42). Due to the difficulty of accessing this area, in order to perform a proper repair, removal of the metal grating at this location will be required. Also, as part of the repair solution, it will be necessary to evaluate the extent of deterioration of the steel member and provide reinforcement, if necessary.

4.9 Relief Angles

The purpose of relief angle construction is to distribute the loads and the weight of the veneer to each floor level and provide sufficient space for the expansion of brick units which continue to increase in volume after construction. Brick is at its smallest when it first comes out of the kiln and then grows over time as it draws moisture from its environment. This results in a one time, irreversible moisture expansion of the brick. The majority of expansion occurs in the first few months, but brick can continue to expand for several years. Typically this movement is accommodated by using shelf angles to support the brick at each floor level. Properly installed shelf angles include soft joints (space between the underside of the relief angle and the brick below it), which gives room for the brick to expand upward. A soft sealant would cover the joint to prevent water from entering the joint. Any expansive forces would be absorbed at the bottom of the relief angle by the sealant and compressible filler.

We performed probes at several relief angle locations (probes #1 and #16), and observed that there is an adequate gap between the underside of the angle and the brick below to accommodate volumetric expansion (Photo 43). Consistent with other flashing methods observed, the flashing at the relief angle does not extend to the outside face of the wall. We did observe minor surface corrosion on the top side of the angle (Photo 44), but to a noticeably lesser extent than at other lintel angle locations. It is likely that since this angle is buried in the wall, its exposure to moisture is less than that of the exposed lintel angles at window and storefront heads.

4.10 Brick at HVAC Louvers

Brick masonry soldier courses were installed at louver openings in the exterior wall of the school (primarily in the classroom wing - Photo 45). Some of these soldier bricks have cracked as a result of volumetric and thermal expansion (Photo 46). The steel lintels above the louver openings appear to be in good condition.

4.11 Sealant Joints

Sealant at control joints, relief angles and at window sill head joints is deteriorating and in need of replacement (Photos 47 and 48). It is likely that the sealant in these joints is from the original construction of the early 1990's. Typically, urethane sealants such as these can have a life expectancy of 10 years, which puts these joints well beyond their anticipated useful life. These joints should be replaced as part of the facade retrofit / restoration project.

4.12 Metal Coping Caps

Bronze colored metal coping caps were apparently installed at some time after the original construction to replace deteriorated cast stone coping pieces. It appears that these metal caps were field fabricated and are affixed to the parapet with external attachments (Photos 49). Some of these copings (approximately 480 linear feet) will need to be removed and replaced in order to execute repair recommendations noted in this report. Given the poor condition of some of the coping caps to remain (Photo 50), the District may wish to consider replacing the balance of the bronze coping caps (approximately 600 linear feet) as part of this project. Additional cap replacement is not included in the repair budget estimate.

5. RECOMMENDATIONS FOR REHABILITATION

Based on the above, we recommend that the following remedial work be implemented to address the various problems at the J.T. Lambert Intermediate School. The recommended repairs are prioritized for the District's use in determining the extent of work in consideration of possible budgetary constraints.

- 5.1 Cast Stone Pieces (High Priority) - Given the extent of cracking, the known material deficiencies, the ineffectiveness of flashing and weep holes, and the ongoing exposure to water intrusion it is not feasible to attempt to rehabilitate the remaining cast stone pieces (with the exception of window sills). In addition, due to the current advanced state of deterioration of many of the pieces, we recommend that the deteriorated cast stone pieces be removed and replaced with limestone pieces. We anticipate that this work will include the following:
- a. Demolition and disposal of cast stone pieces
 - b. Scraping, priming and painting existing exposed steel lintels
 - c. Proper installation of new flashing and weep systems
 - d. Installation of new limestone in lieu of cast stone pieces



- 5.2 Storefront Heads (High Priority) - Due to the extent of water infiltration and steel lintel deterioration at storefront head locations, retrofit repairs are imperative. We anticipate that the required repairs will include the following:
- a. Removal of brick above the storefront area
 - b. Cleaning and coating the steel lintel
 - c. Reinforcement or replacement of the steel lintel
 - d. Installing new membrane flashing
 - e. Installing weeps
 - f. Reinstalling brick
- 5.3 Brick Spalling and Efflorescence (High Priority) - Brick spalling and efflorescence are observed occurring together at various locations on the building. Areas of spalled brick should be addressed by removal of the existing damaged brick and reconstructing the veneer with new brick. New flashings and weeps should be installed, where appropriate. At areas of efflorescence where brick remains intact, the brick should be cleaned using appropriate methods and cleaning products.
- 5.4 Pocketed Beams at Grating Walkway (High Priority) - Due to the deterioration of steel support beams and bearing plate steel, as well as the deterioration of surrounding concrete in these bearing areas (south end of the walkway), we anticipate that corrective work will include the following:
- a. Shoring the underside of structural steel beams
 - b. Removal of grating at the south end of the walkway to expose the beam bearing area
 - c. Chipping out concrete as required to expose the steel beam ends and bearing plate
 - d. Cleaning and coating the steel beam ends and bearing plate
 - e. Reinforcement of steel members (if necessary based on cross section loss assessment)
 - f. Installation of new flashing
 - g. Reconstructing concrete in the bearing area
 - h. Reinstalling grating
- 5.5 Site Walls (High Priority) - Cast stone deterioration combined with flashing and wall drainage deficiencies have resulted in widespread and severe deterioration of the cast stone caps and masonry veneer on both sides of the site walls. Based on the extent of deterioration, we recommend removal and rebuilding of the brick veneer and replacement of the cast stone caps. The new veneer walls should be constructed with proper through wall flashing and cap anchorage systems. Based on probes #25 and #26, the back-up concrete walls are believed to be in adequate condition and are acceptable for reuse with new veneer installation, with the exception of several walls in the south corner of the site. We anticipate that this work will include the following:
- a. Demolition and disposal of cast stone caps
 - b. Installation of new stainless steel ties as required to construct new brick masonry
 - c. Proper installation of new flashing and weep systems
 - d. Installation of new stainless steel cap flashing
 - e. Installation of new limestone coping caps or poured in place concrete caps with proper anchorage

As an alternative to site wall repairs noted above, some site walls could be demolished. This would require consideration of which site walls are currently utilized for fall protection and how to provide for fall protection if such walls were to be removed.

- 5.6 Window Heads (Medium Priority) - Currently there is a variation in the extent of deterioration observed on window lintels. This variation is believed to be related to environmental conditions unique to each lintel location, such as exposure to wind, sun and rain as well as the quality of original workmanship, etc. Although repairs may not be warranted at all window head locations, there are some window head lintels that should be addressed due to the extent of oxide jacking and steel corrosion. We anticipate that corrective work in these areas will include the following:
- a. Removal of brick above window
 - b. Cleaning and coating steel lintel at heads of windows
 - c. Installing new membrane flashing
 - d. Installing weeps
 - e. Reinstalling brick
 - f. Replacing sealant between the bottom of the lintel and the head of the window frame

- 5.7 Window Sills (Medium Priority) - Chronic wetness in the brick masonry veneer, as evidenced by staining of the brick and mortar below a number of sill areas, can have a detrimental effect on long term veneer performance. In order to reduce the moisture exposure in these areas, we recommend the following scope of work:
- a. Removal of sealant material from the brick and sill at the underside of sill
 - b. Saw cutting the mortar bed joint below the sill back a minimum of ¼" from face of brick and repointing with mortar
 - c. Cleaning out the drip groove at the underside of the cast stone sill and reestablishing a continuous drip groove under the entire length of the sill

In addition to reestablishment of the drip at sill locations, consideration should be given to protecting the cast stone sills by applying a coating to exposed cast stone sill surfaces. Although there is currently no evidence of sill deterioration due to ASR, the fact that extensive ASR deterioration has impacted most other cast stone pieces on the building, and considering that ASR is promoted by the presence of moisture, it would be prudent to minimize to the extent possible water absorption into the sill material. Application of a breathable coating material to the sills would significantly reduce moisture absorption and prolong the life of the sill pieces.

- 5.8 Brick at HVAC Louvers (Medium Priority) - Cracked soldier bricks at louver locations should be removed and replaced with new soldier brick. As an alternative to brick replacement, the District may wish to consider addressing all louver opening areas at once by removing soldier brick at louver locations and covering the opening with a conventional metal louver.
- 5.9 Sealant Joints (Medium Priority) - Sealant at control joint, relief angle joint and window sill joint locations should be removed and replaced. We anticipate that this work will include the following:
- a. Removal of sealant material and deteriorated backer rod
 - b. Proper preparation of joint surfaces, including cleaning and priming, as required
 - c. Installation of new backer rod and sealant
- 5.10 Relief Angles (Low Priority) - At the present time, based on current probe opening observations, the steel lintels appear to be in good condition and therefore there is no urgent need to re-flash these lintel angles. If in the future, steel corrosion deterioration warrants repairs, the repair scope would be identical to the repair scope provided above under Section 5.6 Window Heads. Relief angle repairs are not included in the budget estimate provided below.

6. BUDGET ESTIMATE FOR REHABILITATION WORK

Pursuant to the above recommended repair scope, DEI prepared a budget estimate for the construction costs associated with rehabilitation work. The estimate includes general requirements, such as mobilization, demobilization, supervision, scaffolding, equipment, bonds, final cleaning, etc. The owner would provide use of water and electricity.

The Construction Budget Estimate incorporates the following assumptions:

1. This will be a prevailing wage project using the current Monroe County Wages.
2. Construction will be bid within the next 12 months with a duration of less than 12 months.
3. Access to the site is reasonable and there will be areas available for material laydown, storage trailers, office trailers and worker parking.
4. Work can be scheduled and phased such that it can be performed during normal shift hours.
5. The windows in the areas of cast stone removal and veneer reconstruction can remain in place during the repair work.
6. Masonry cleaning and application of a water repellant for approximately 20,000 square feet of the exterior wall is included in the budget estimate.
7. All site walls will be rehabilitated by reconstructing veneer areas and replacing all cast stone caps with limestone. A redesign that eliminates some of the site walls where possible, and utilizing poured in place concrete caps could reduce the budget estimate by as much as \$150,000.

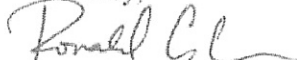
Budget Estimate:

a. Items in Sections 5.1 through 5.9	= \$1,695,000
b. 10% Contingency	= \$ 169,500
c. Fees, Permits and Construction Testing (10%)	= \$ 186,500
Total Budget	= \$2,051,000

This estimate is based upon information gathered during the condition assessment, including the findings relative to the problems observed, review of as-built drawings and details, quantification of the extent of the various repairs and preliminary determination of conceptual retrofit procedures and methodology. This process included using our best judgment regarding the most cost effective way to carry out the remediation and rehabilitation activities. It would be prudent as part of the subsequent design phase to perform a mock-up of the repair scope at one window location to confirm construction scope assumptions prior to bidding. This estimate should be updated during the design phase to reflect design development progress as the scope of work, construction details, methods of repair and final materials are selected and finalized.

If you have any questions, please contact me.

Sincerely,


Ronald C. Carr, P.E.
Principal

Attachments: A Report Photographs
B Report Sketches

287005/J T Lambert Masonry Facade Rep 11 16 16



APPENDIX A



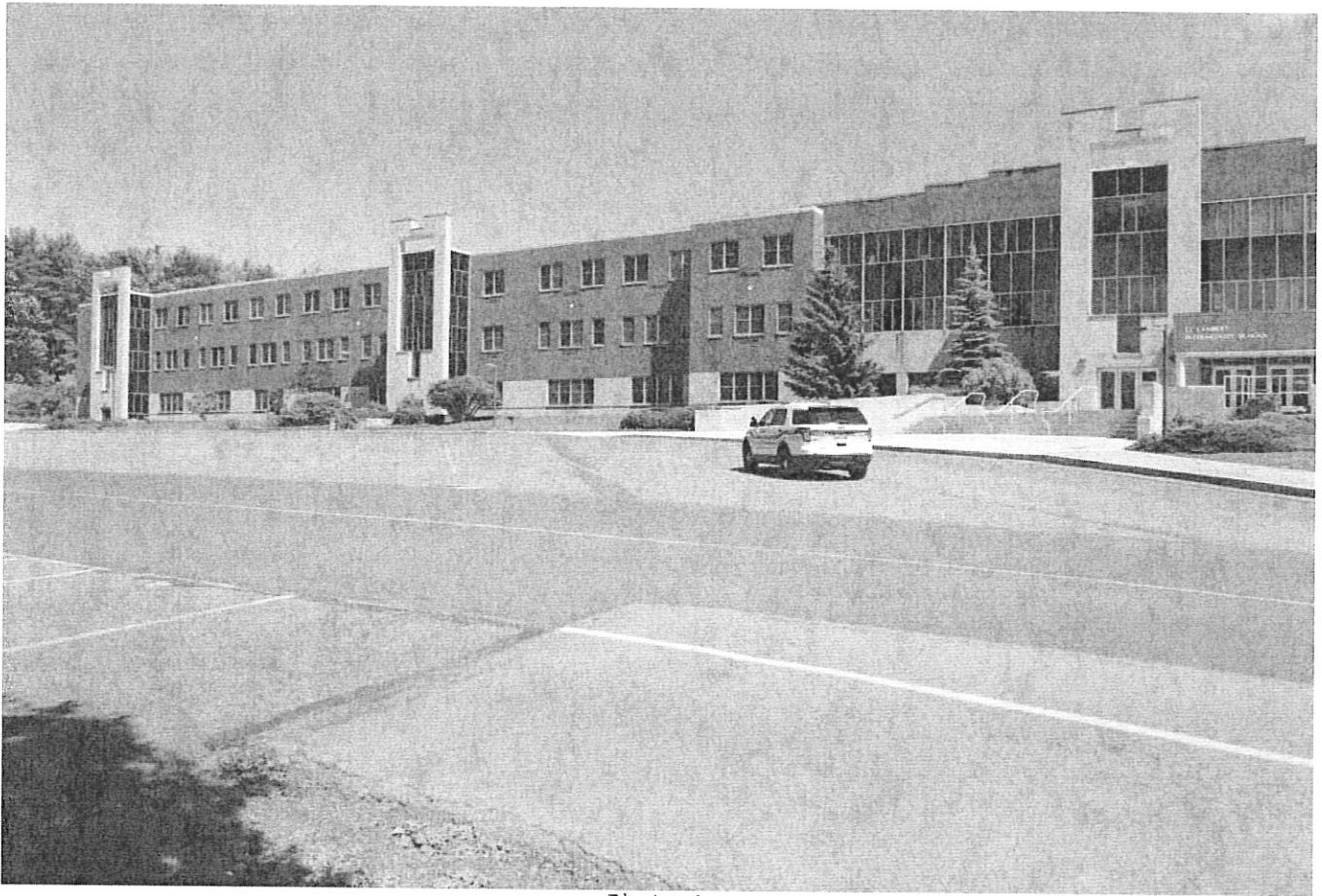


Photo 1

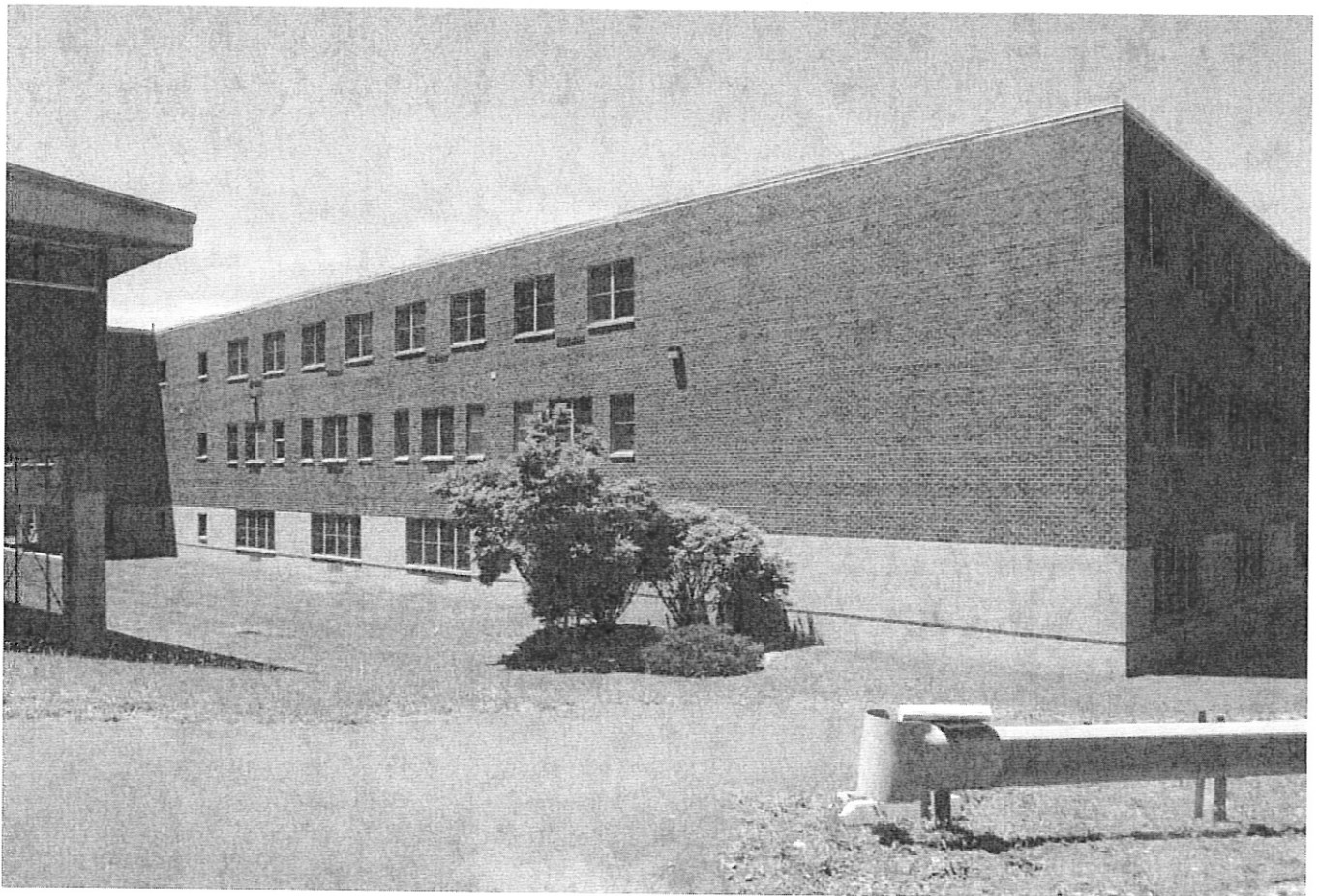


Photo 2



Photo 3



Photo 4

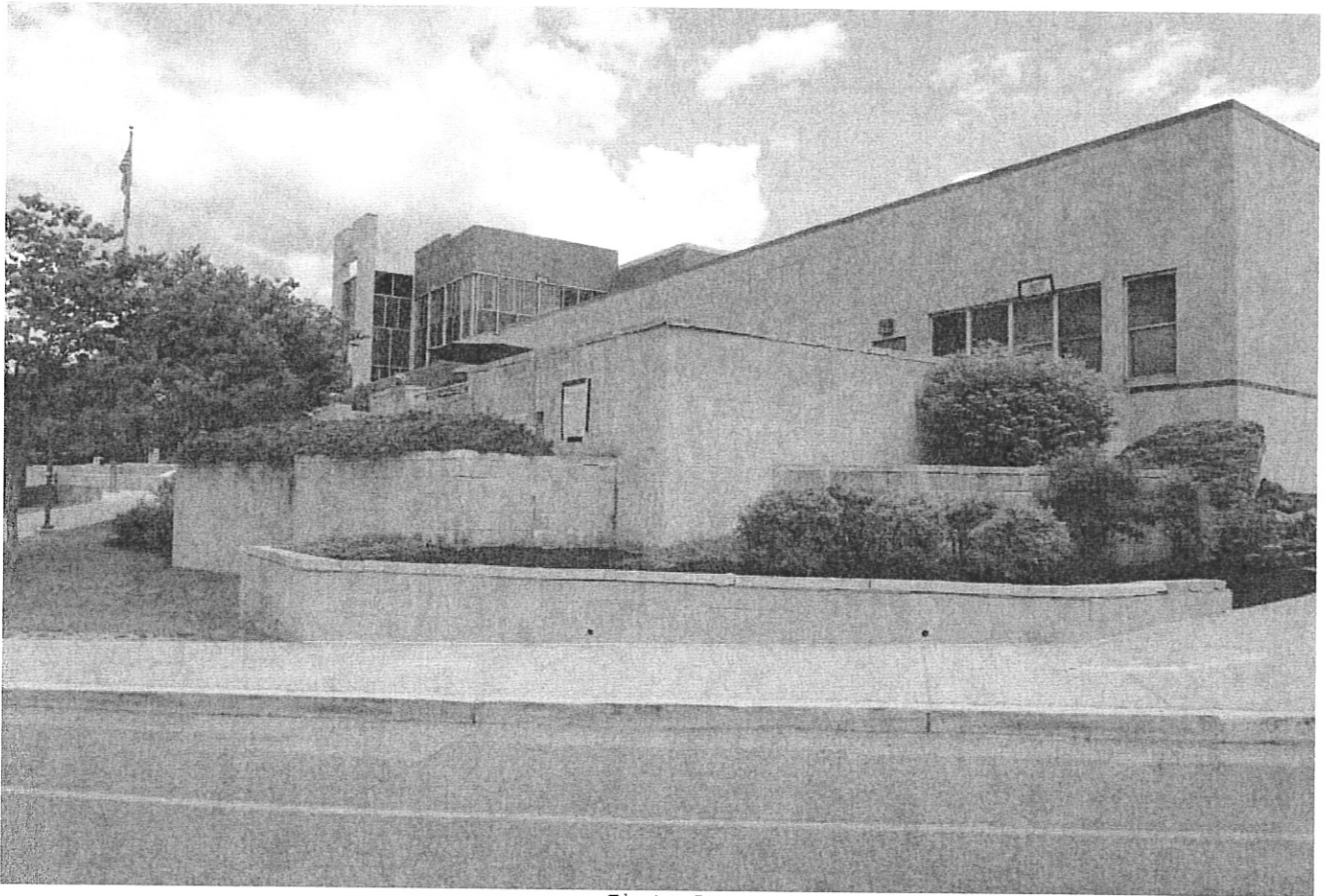


Photo 5

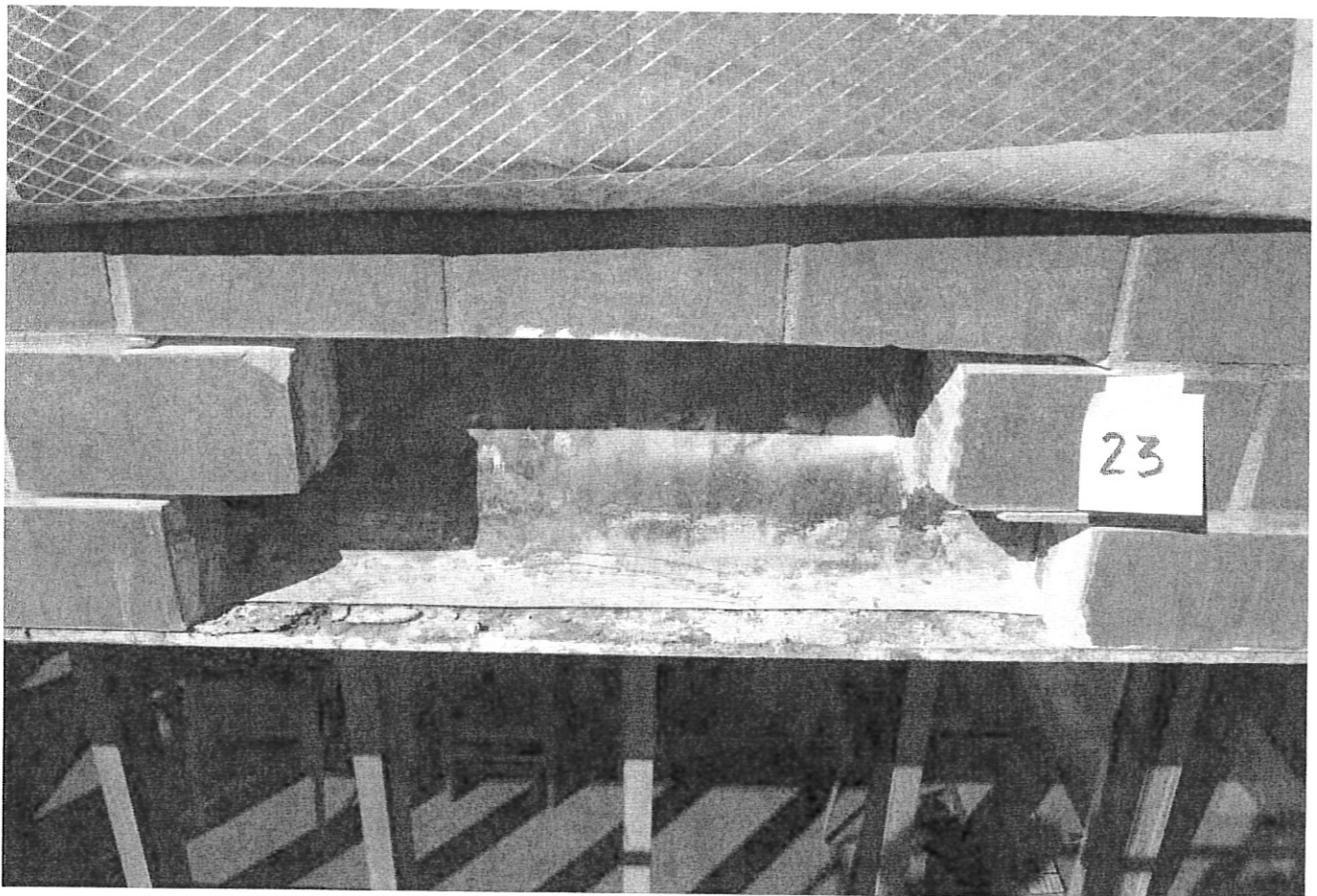


Photo 6



Photo 7



Photo 8

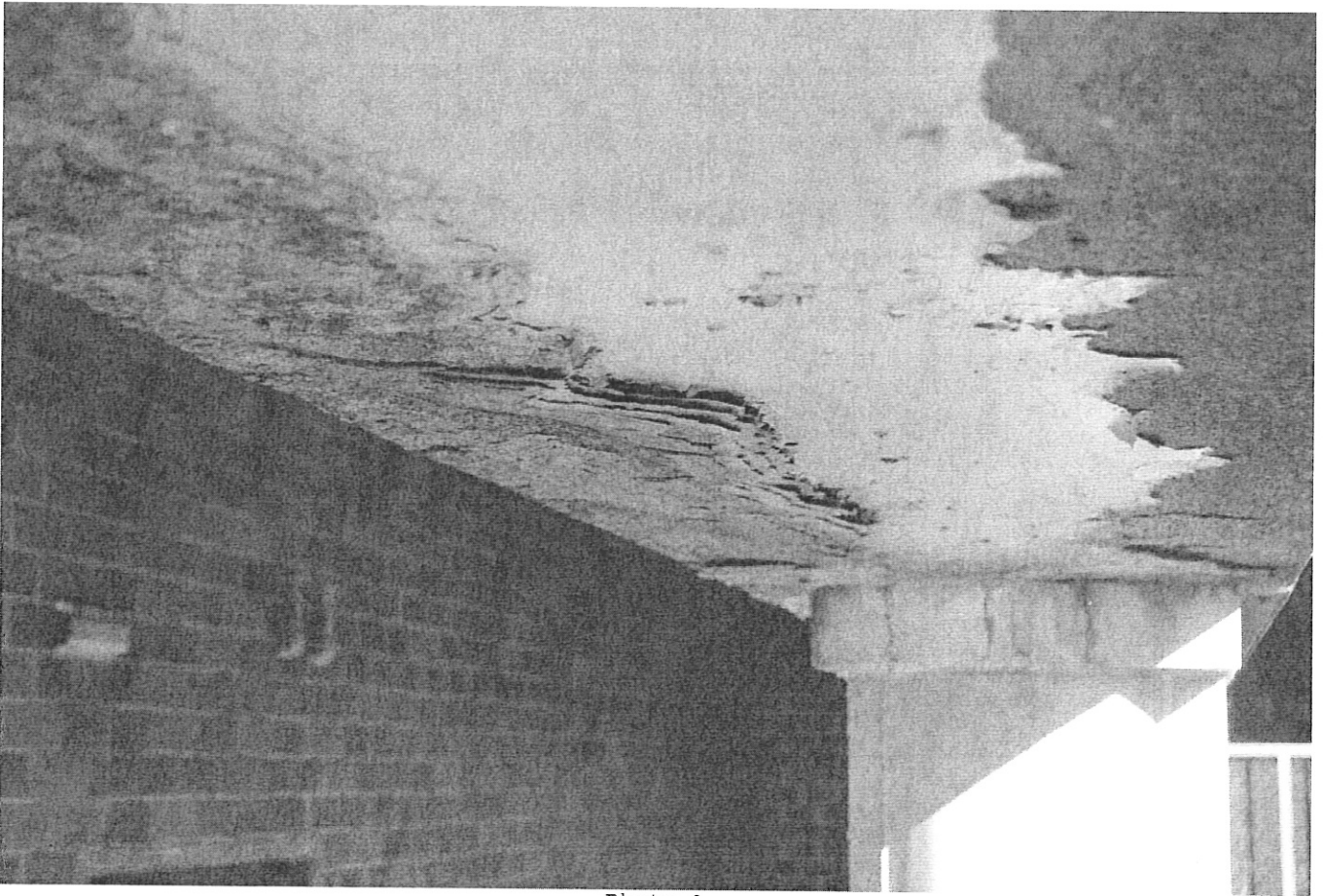


Photo 9

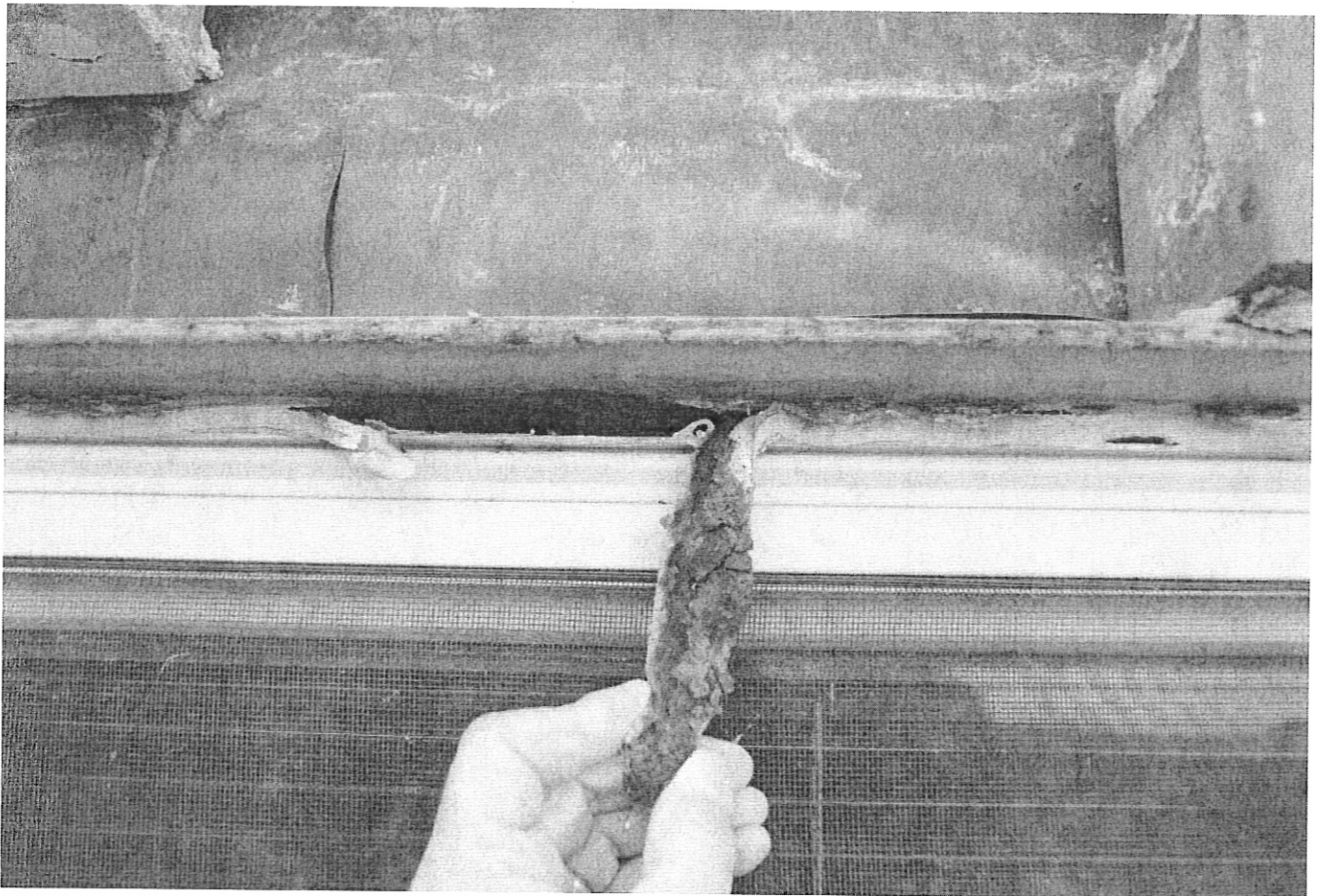


Photo 10

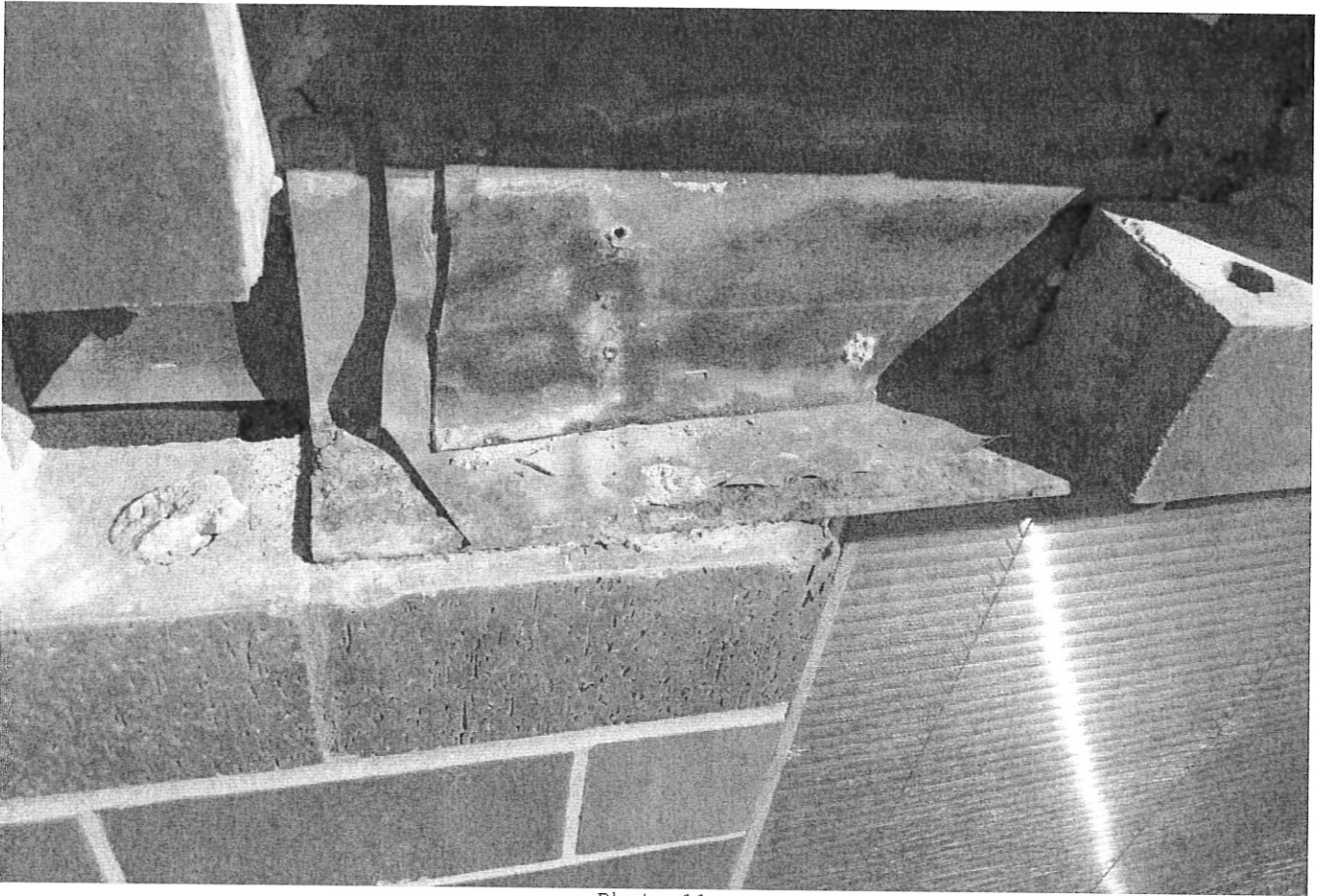


Photo 11

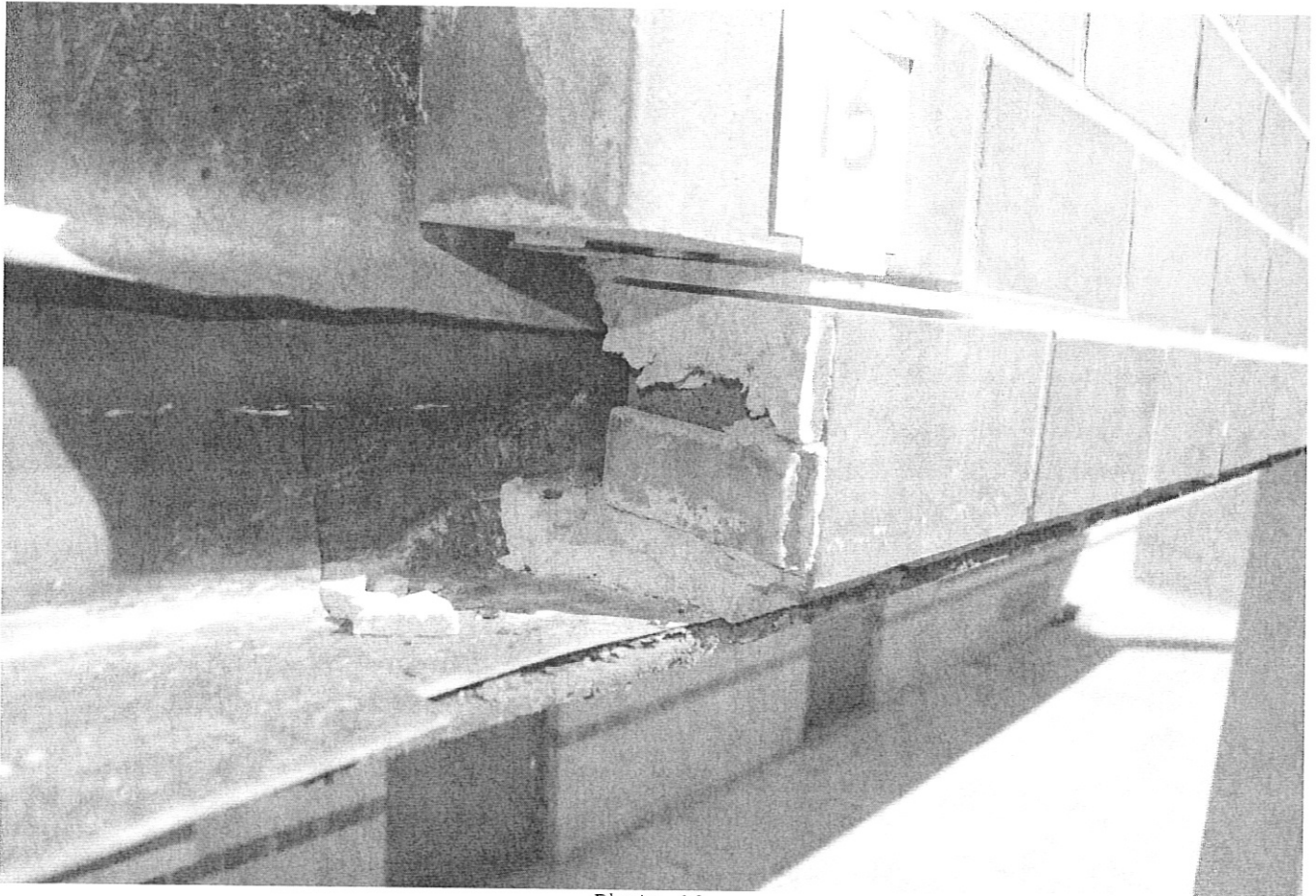


Photo 12

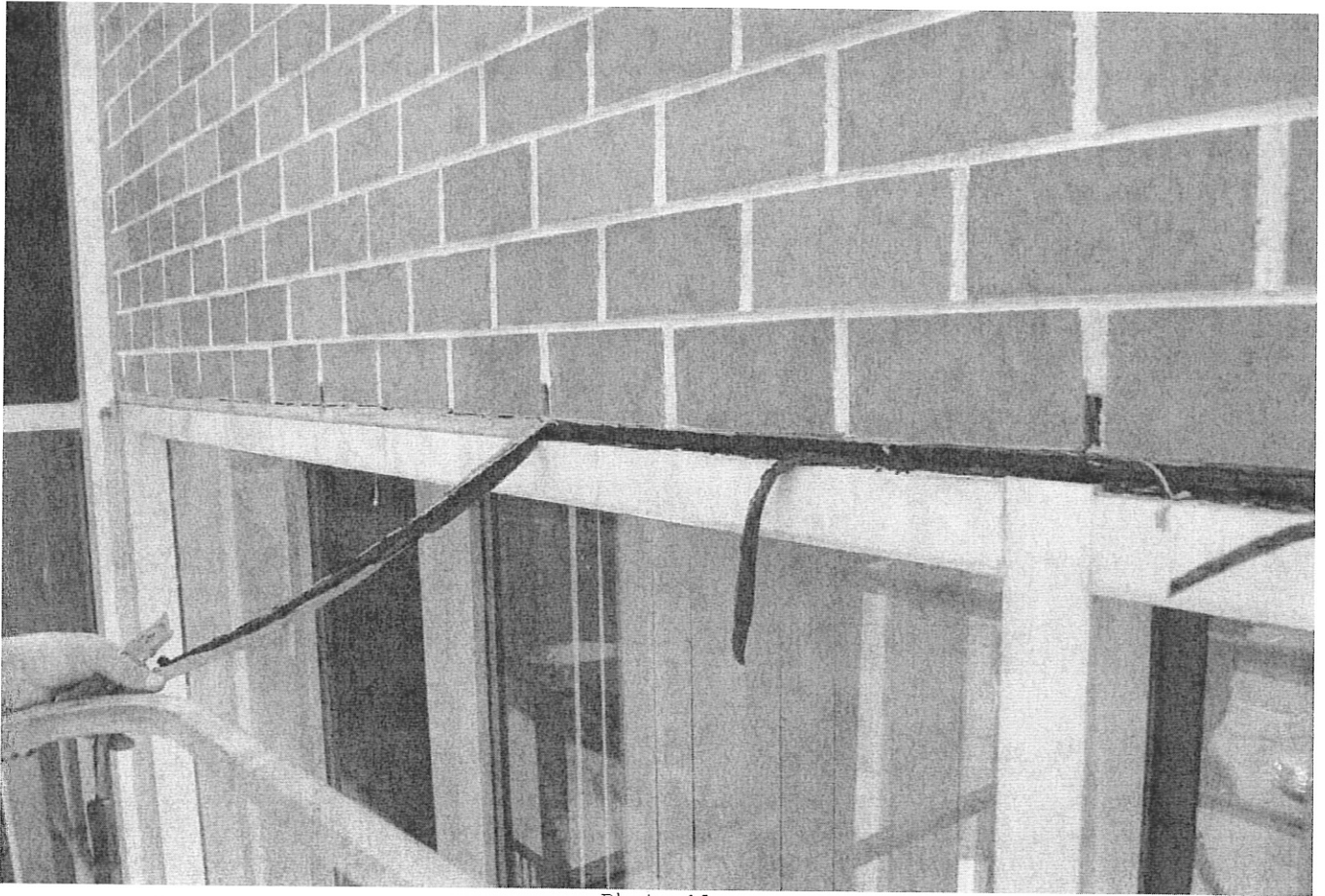


Photo 13

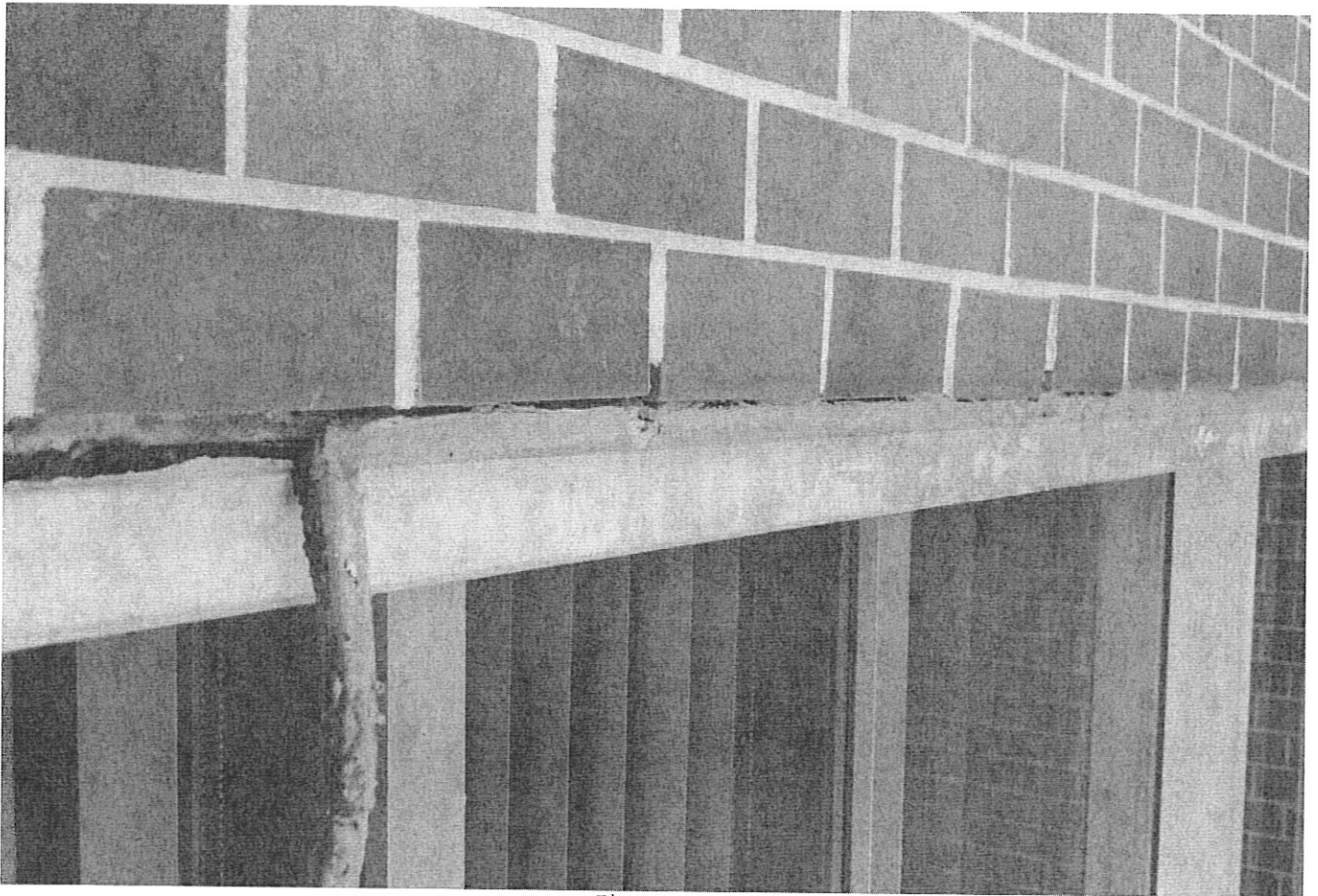


Photo 14

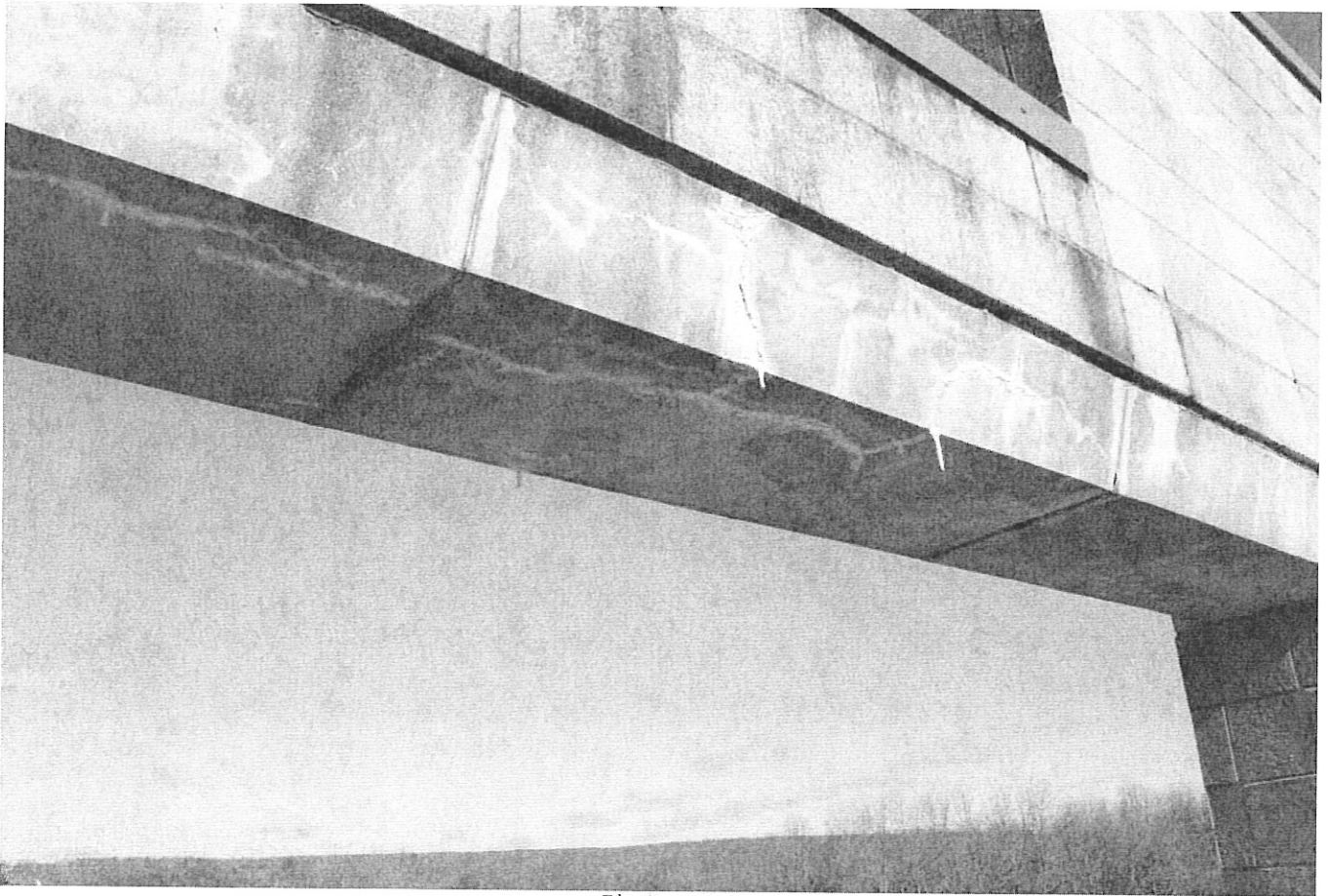


Photo 15



Photo 16

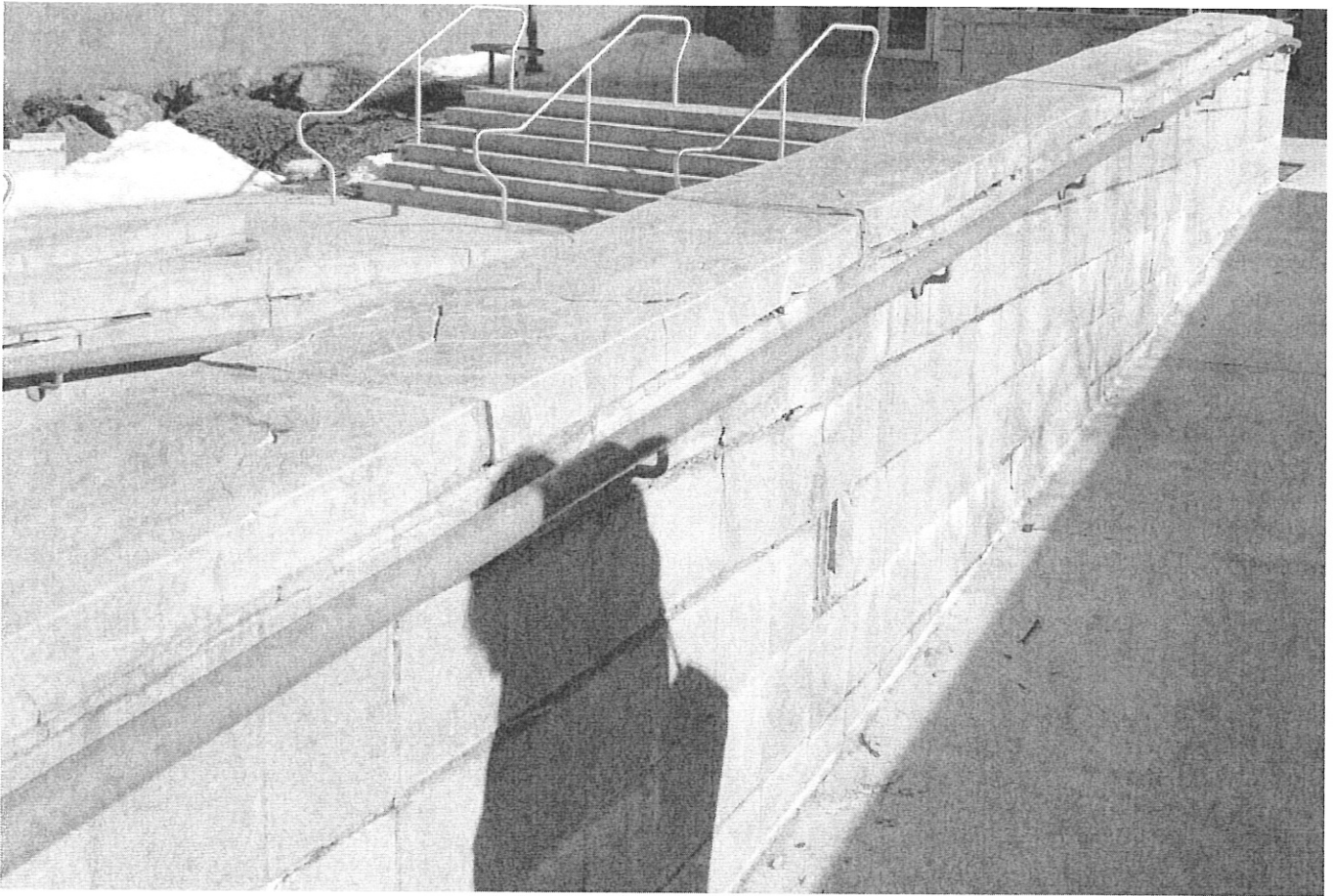


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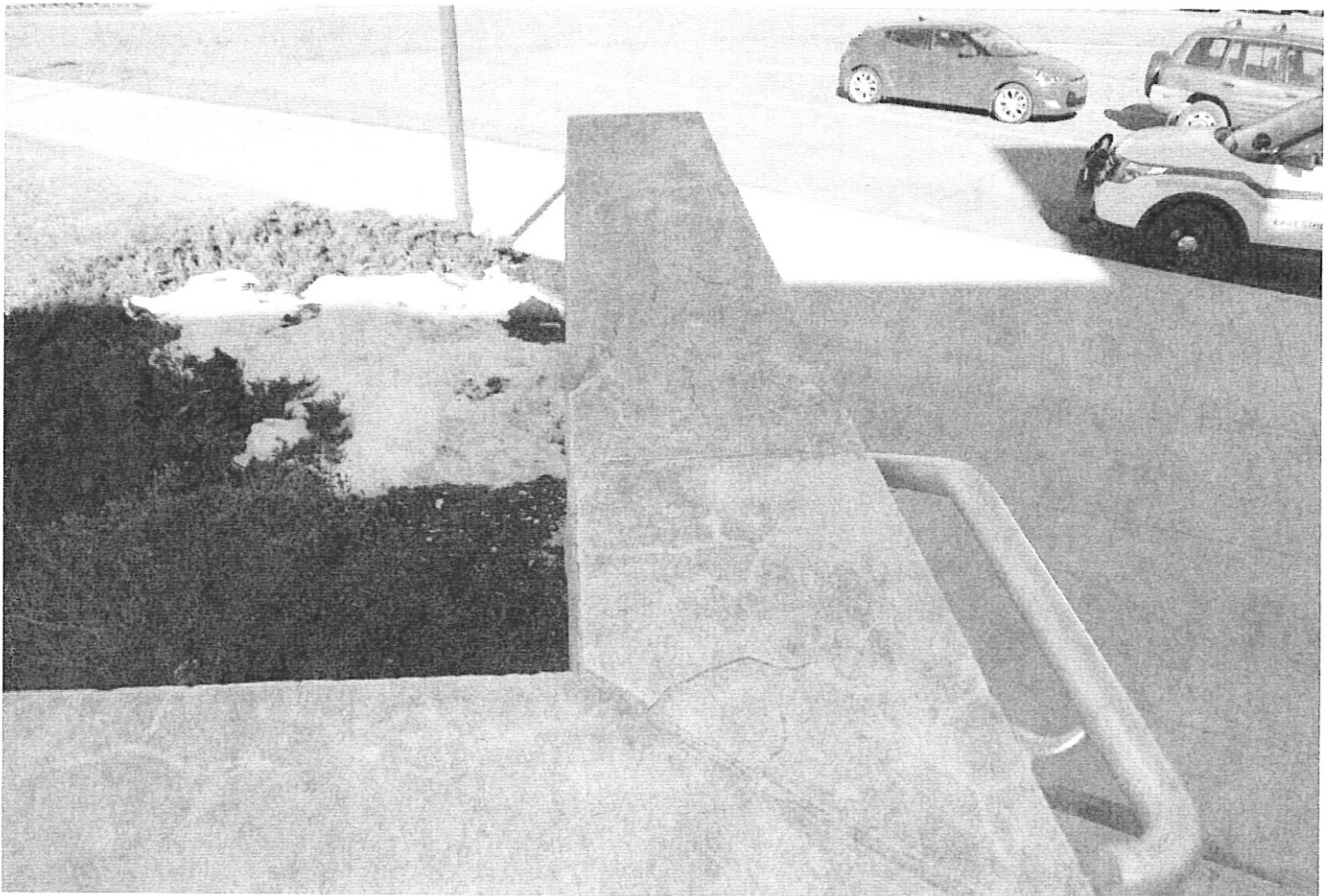


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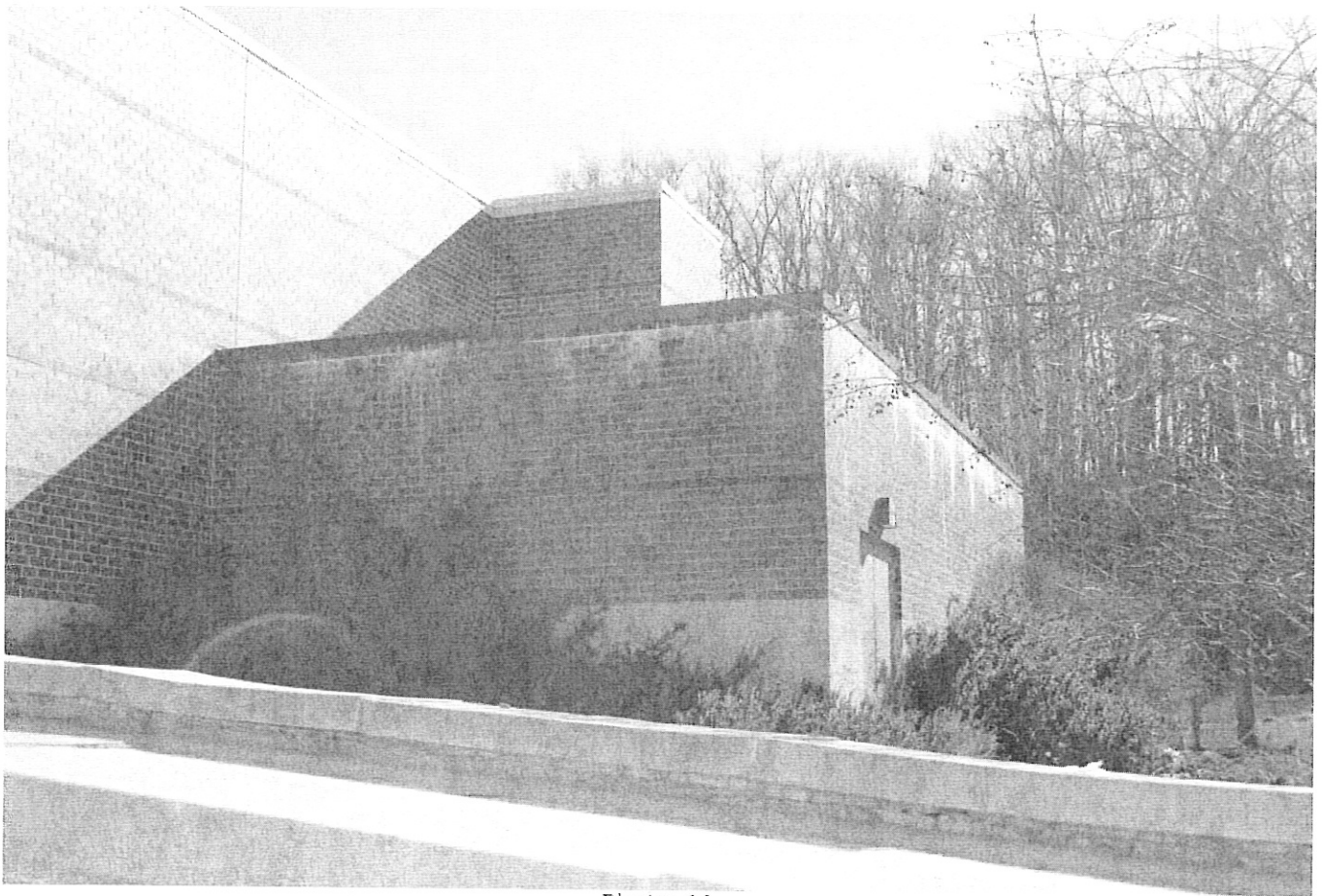


Photo 19



Photo 20



Photo 21



Photo 22

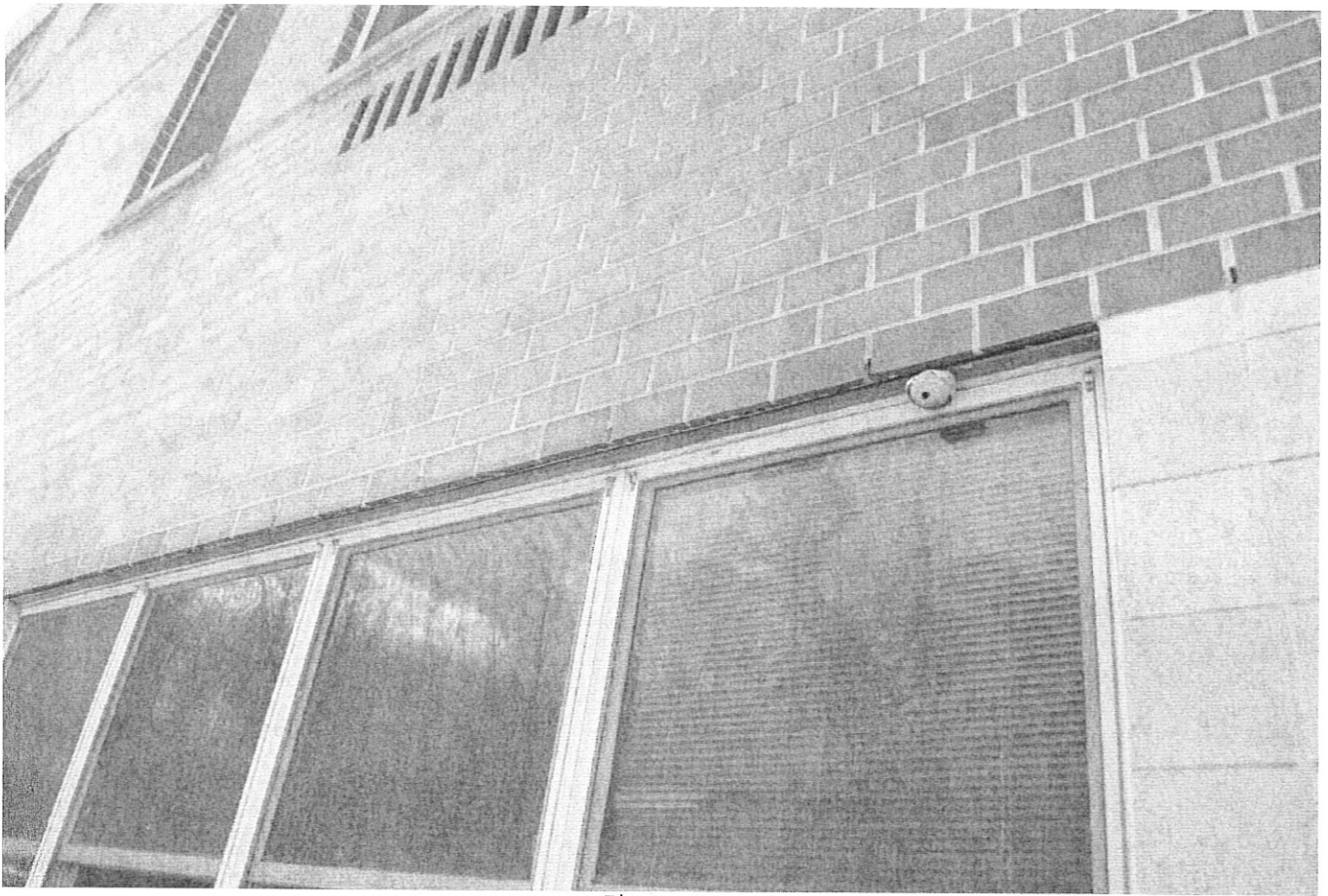


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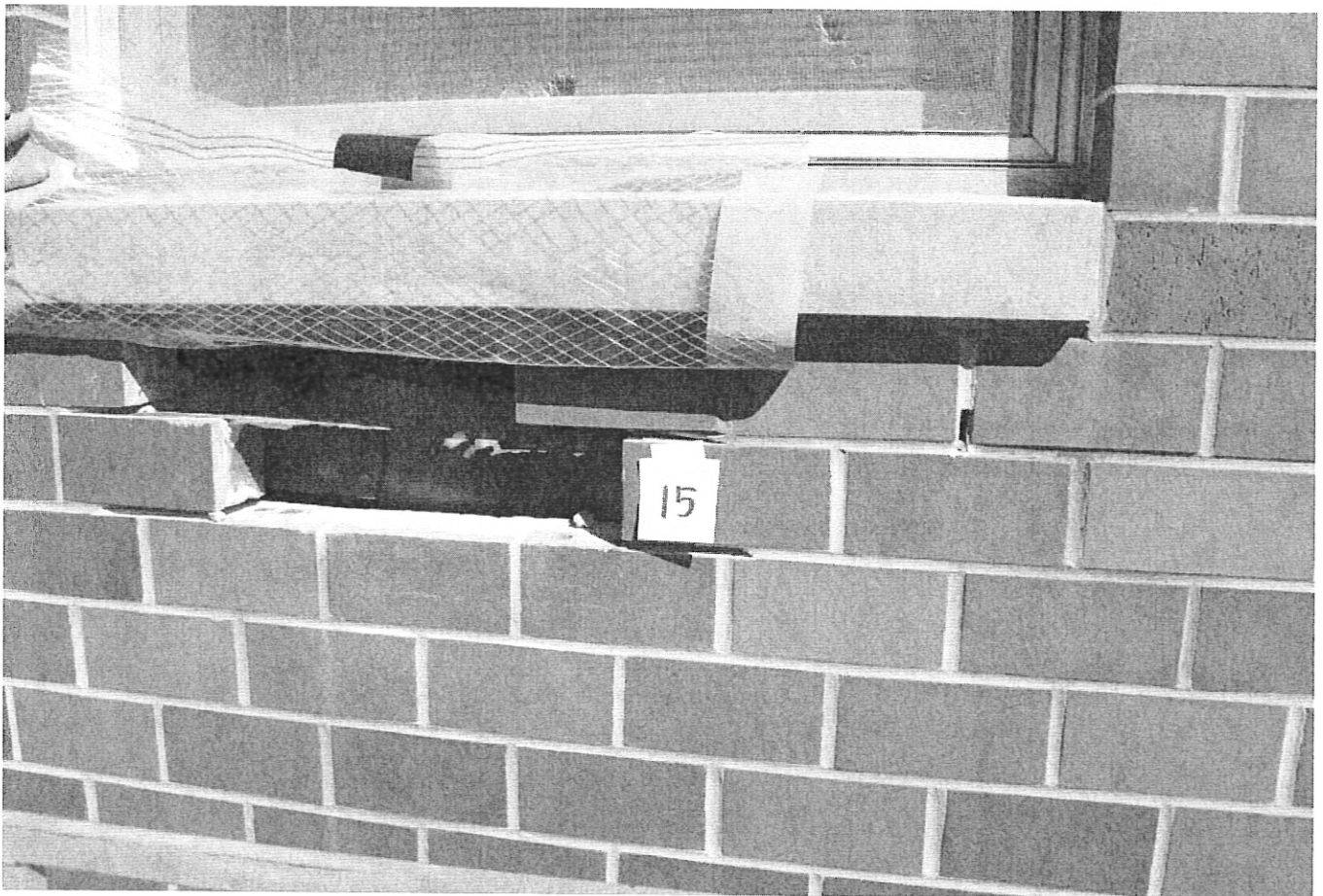


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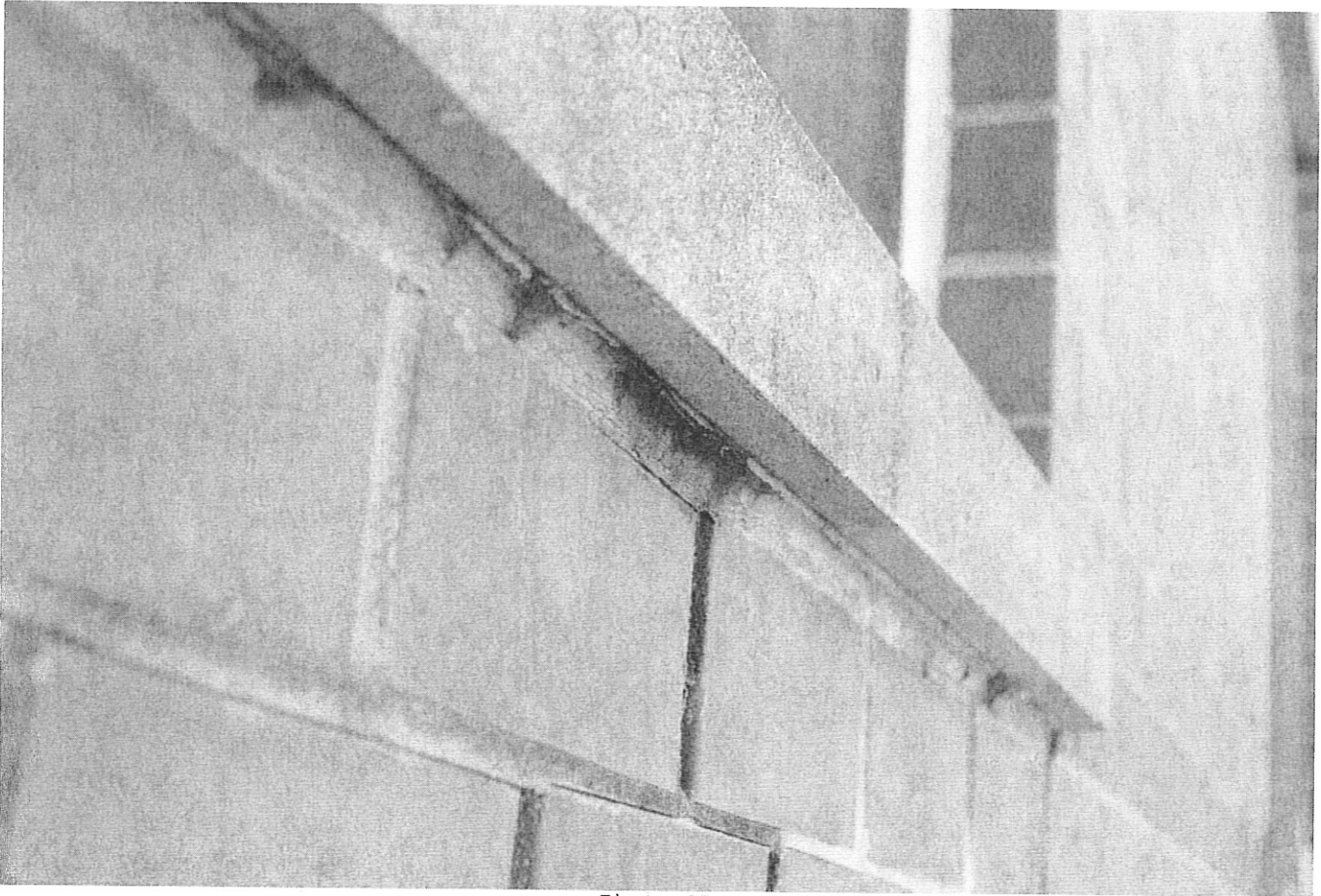


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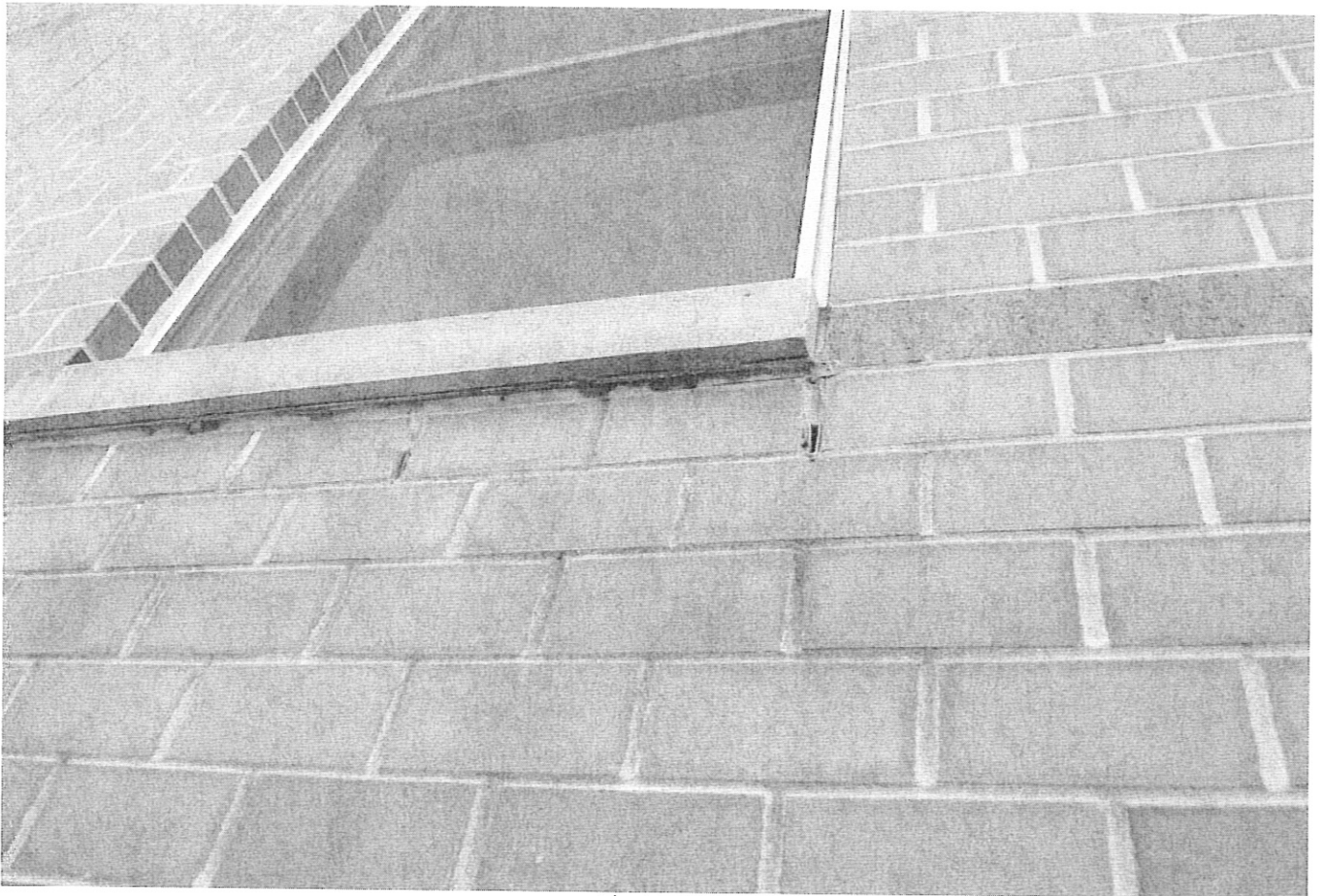


Photo 26



Photo 27



Photo 28

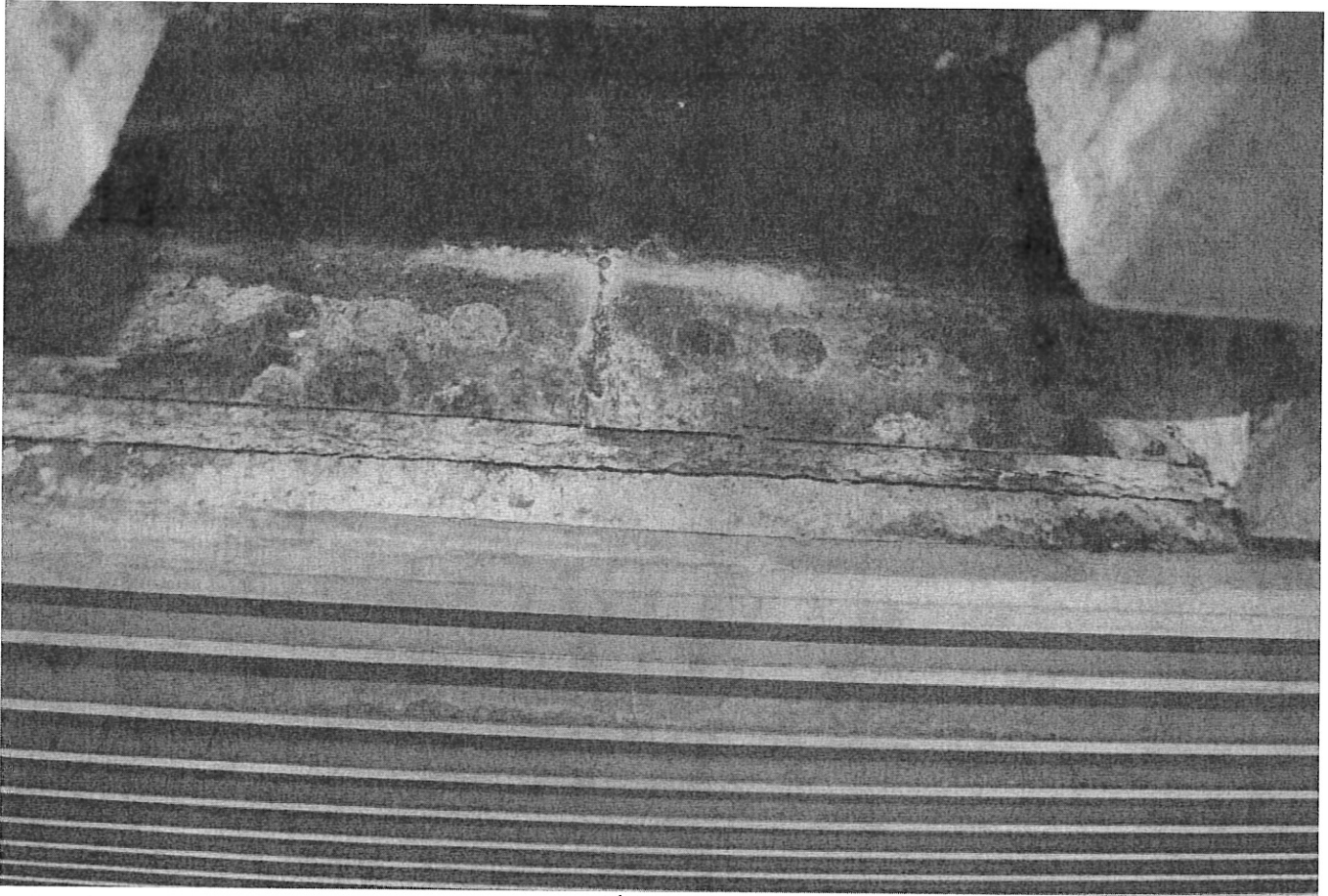


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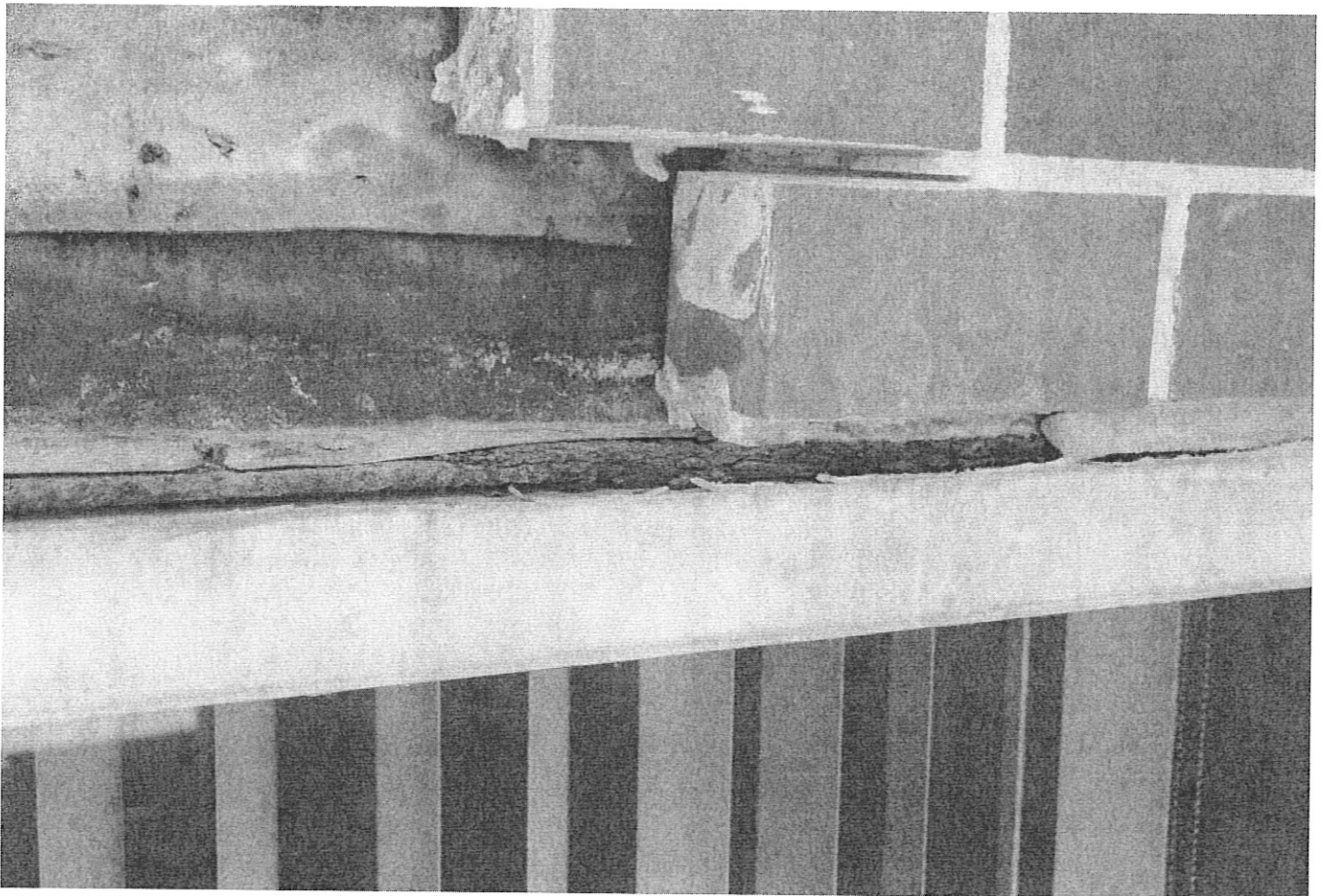


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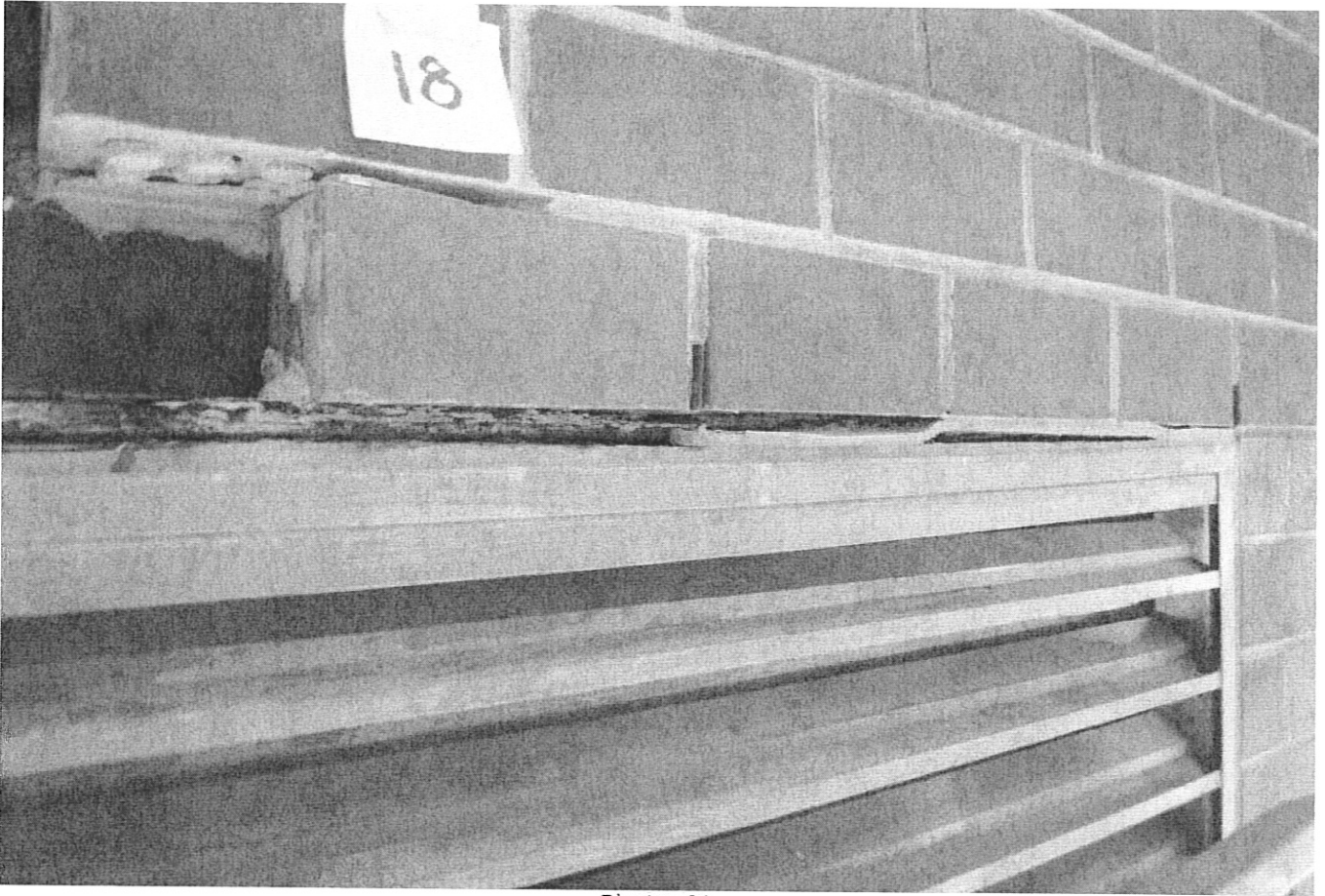


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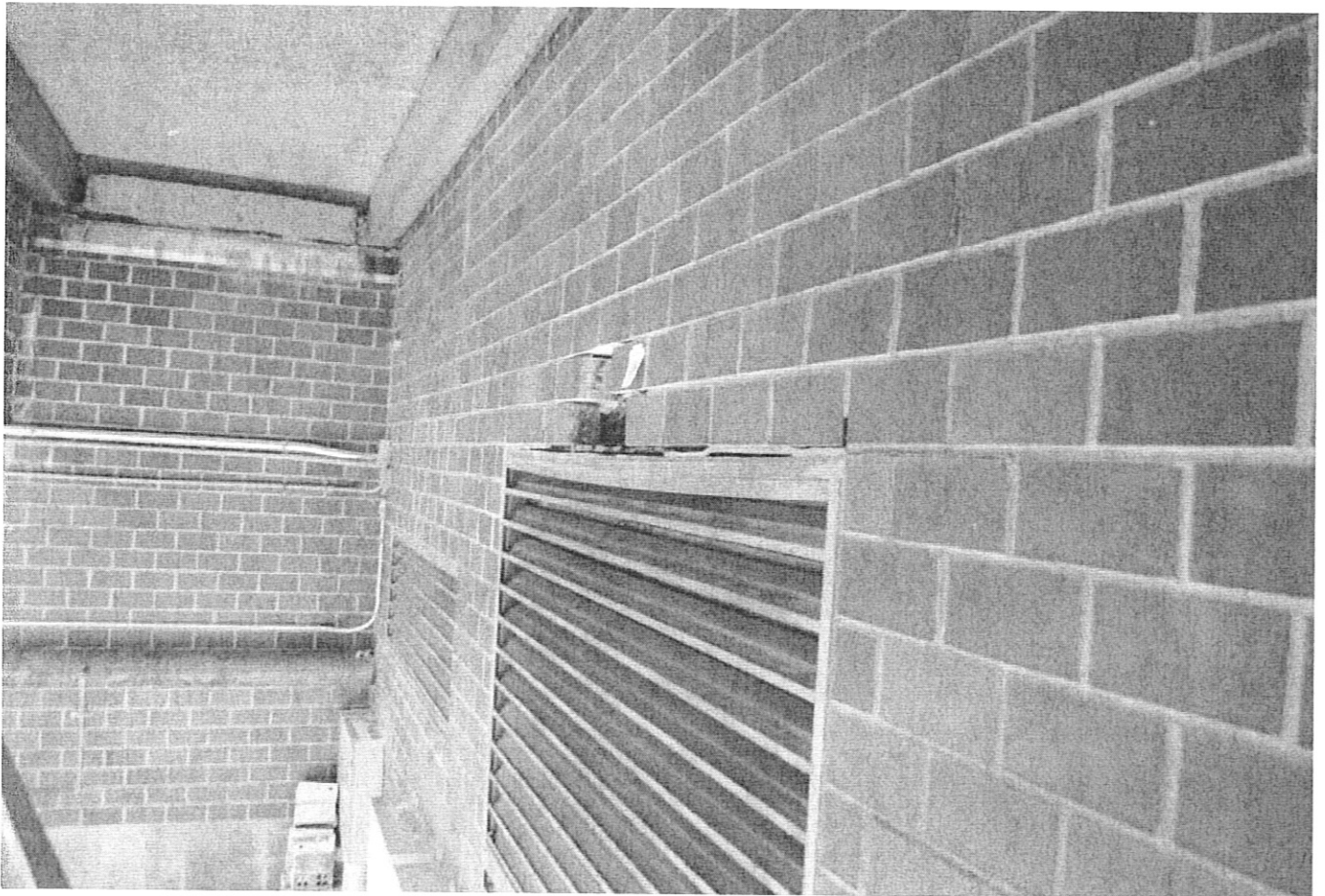


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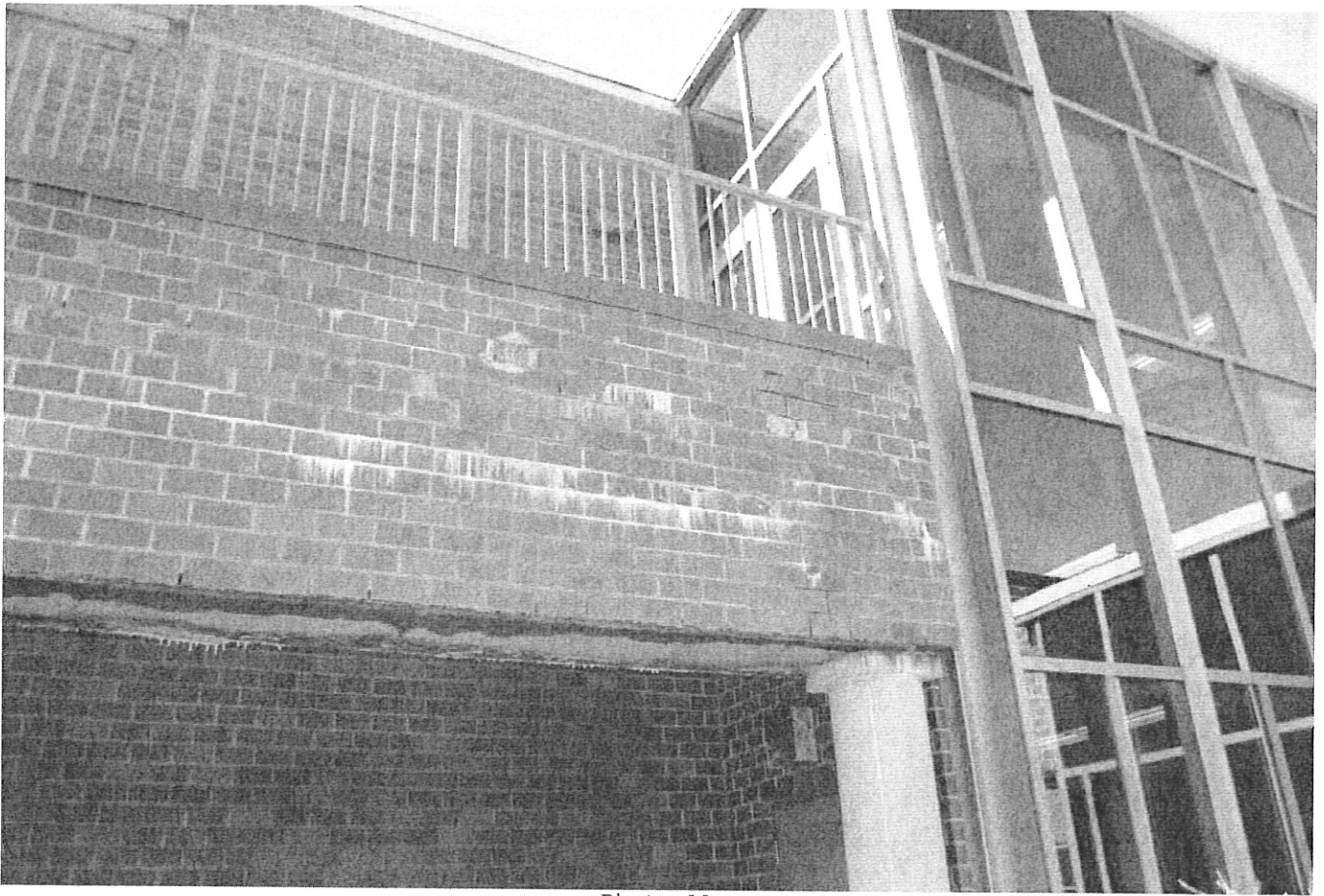


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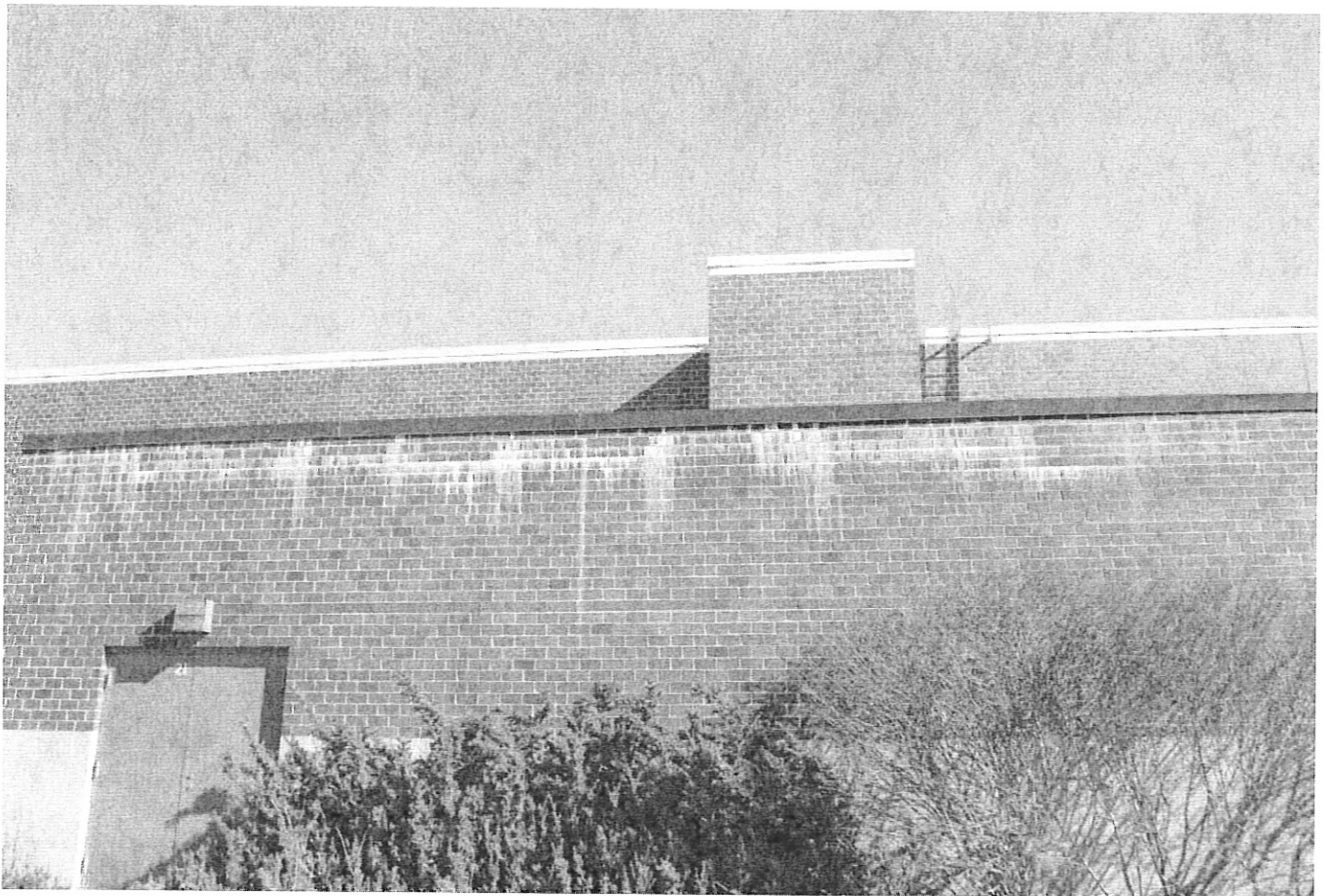


Photo 34



Photo 35

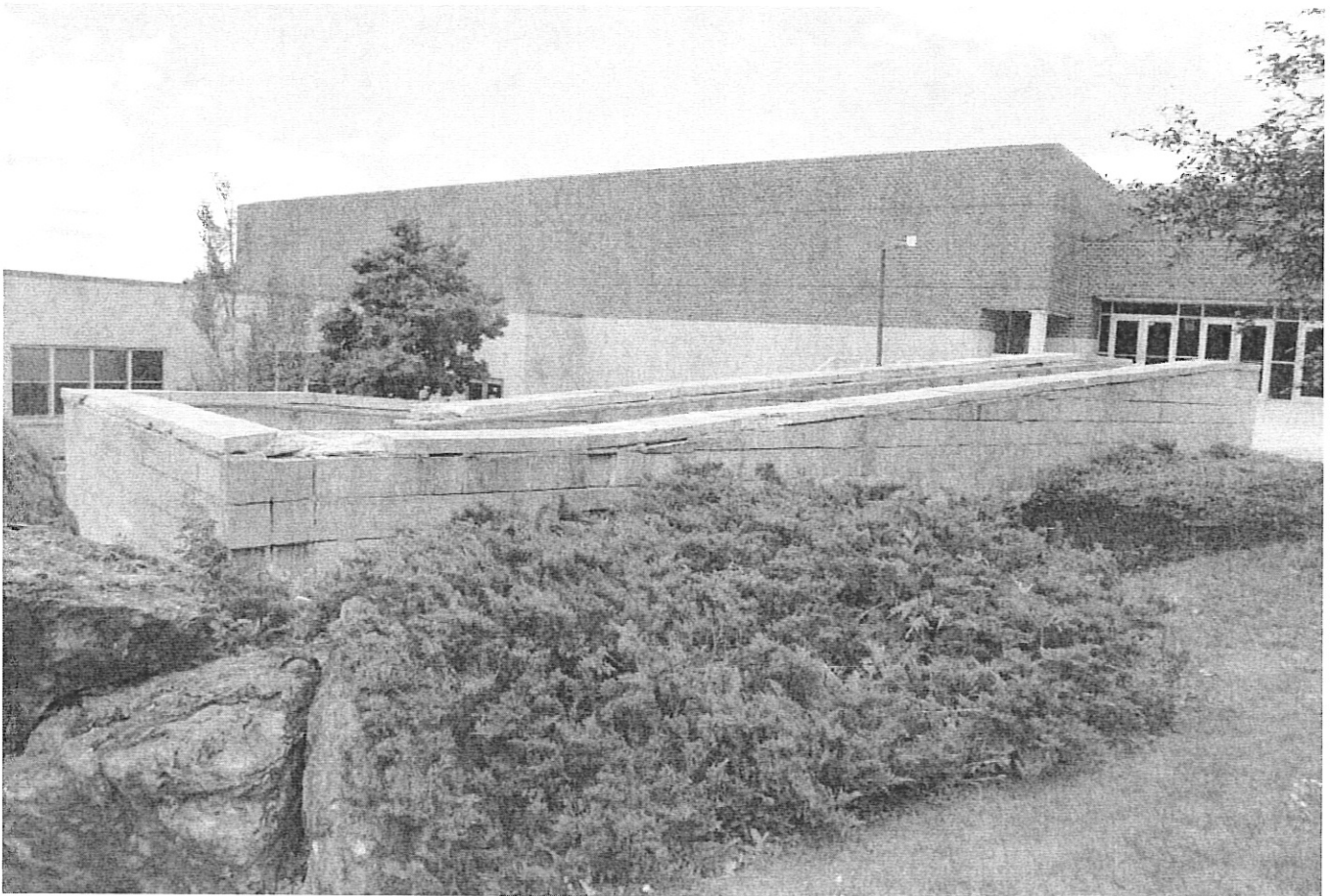


Photo 36



Photo 37



Photo 38

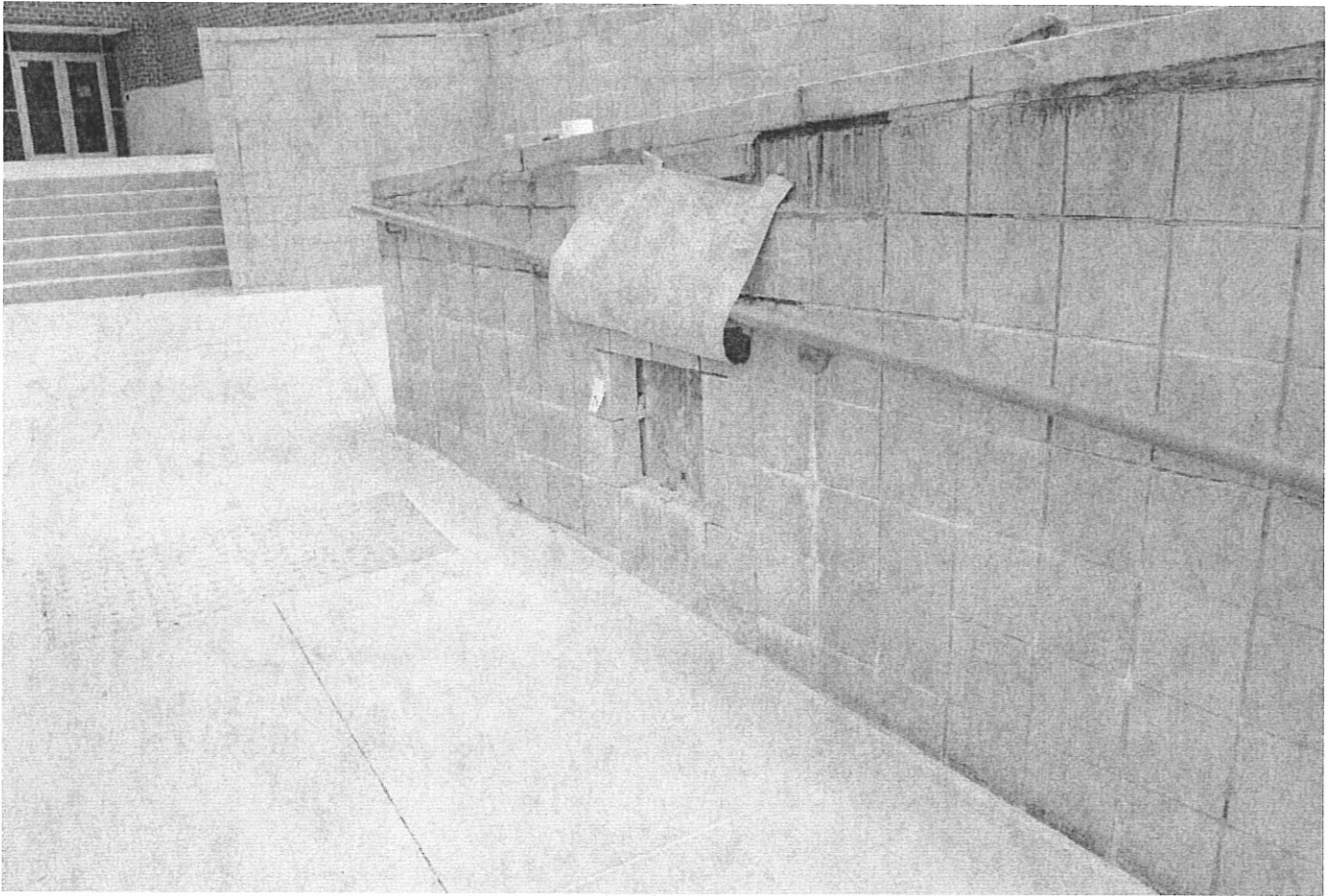


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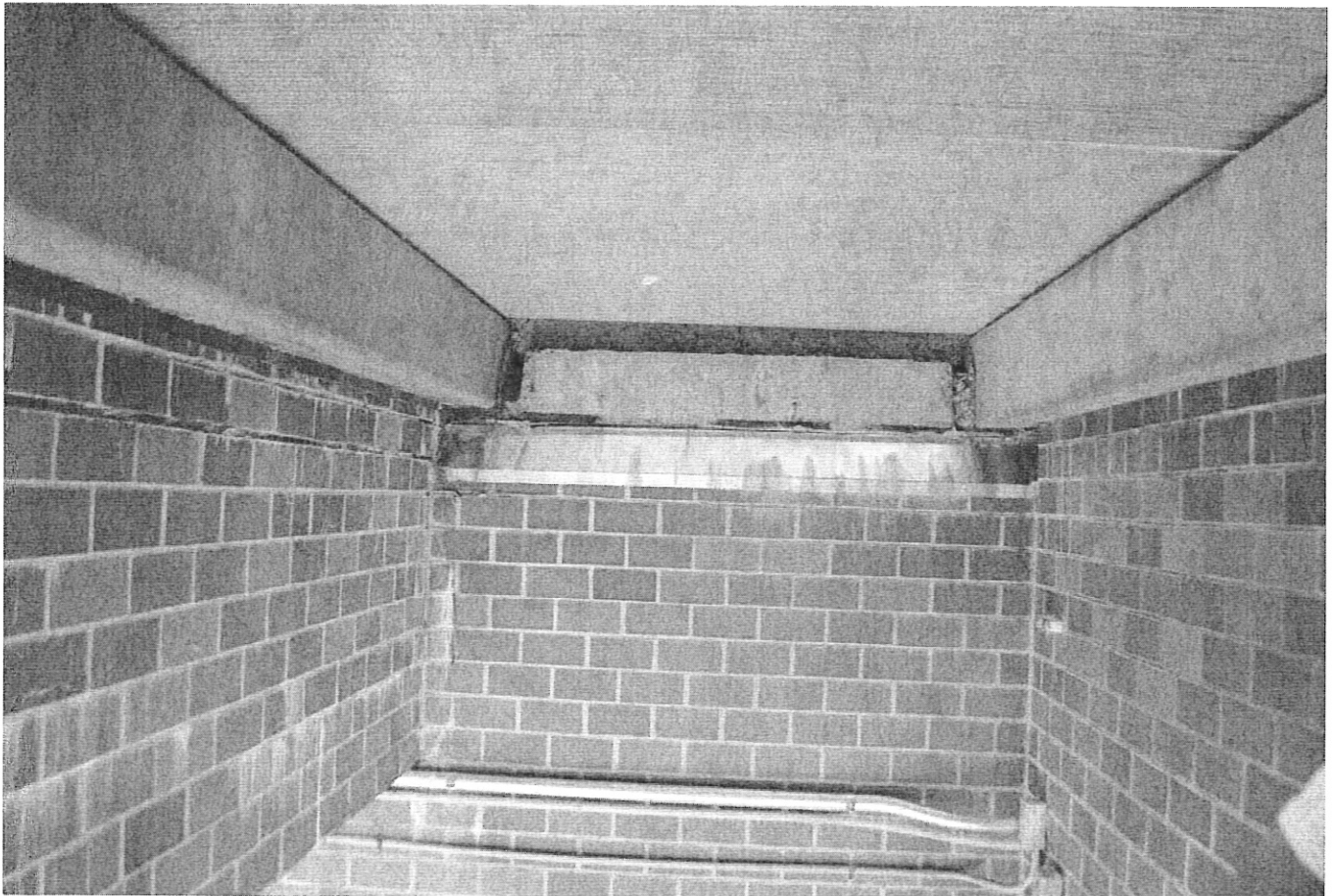


Photo 40



Photo 41



Photo 42



Photo 43

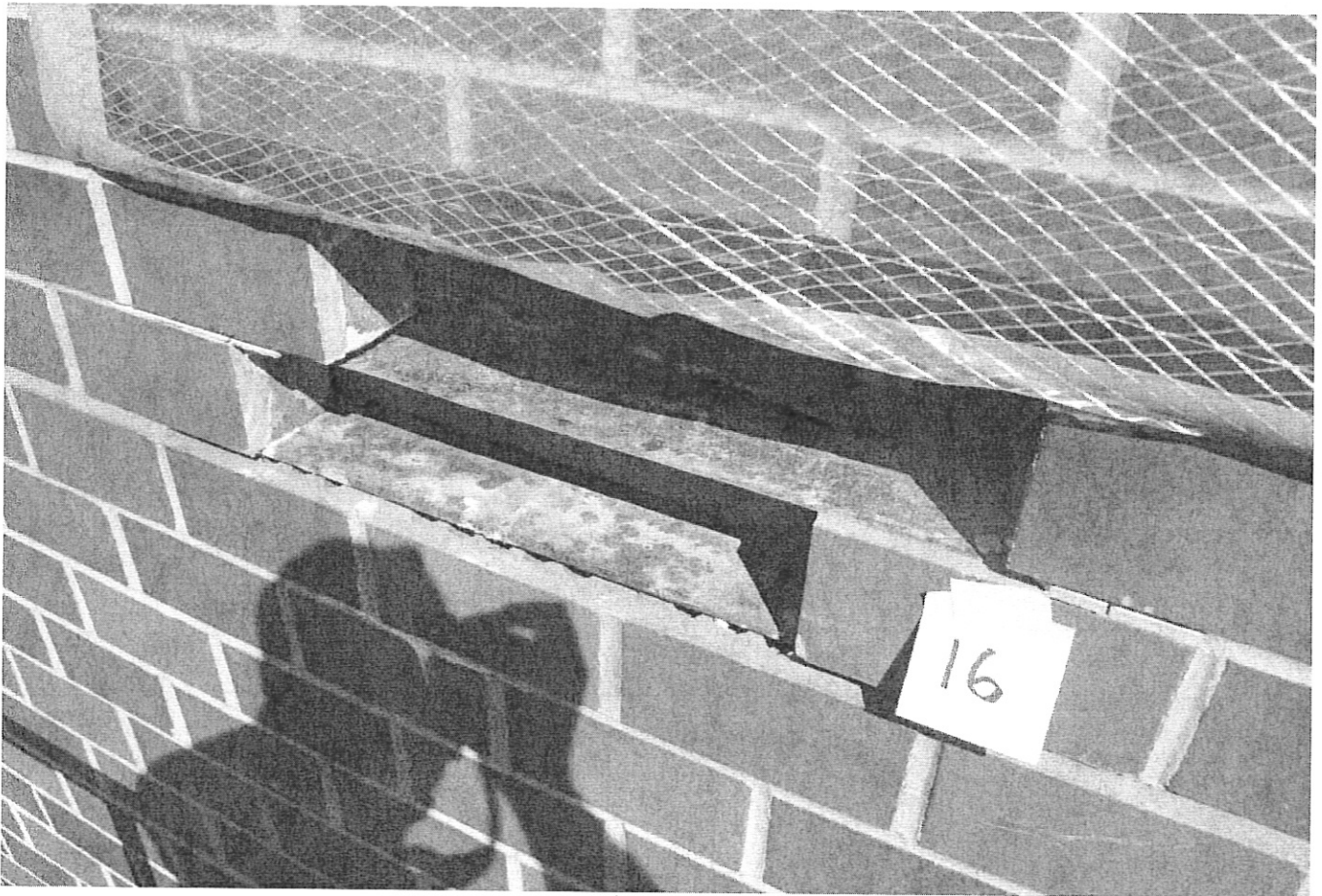


Photo 44



Photo 45



Photo 46

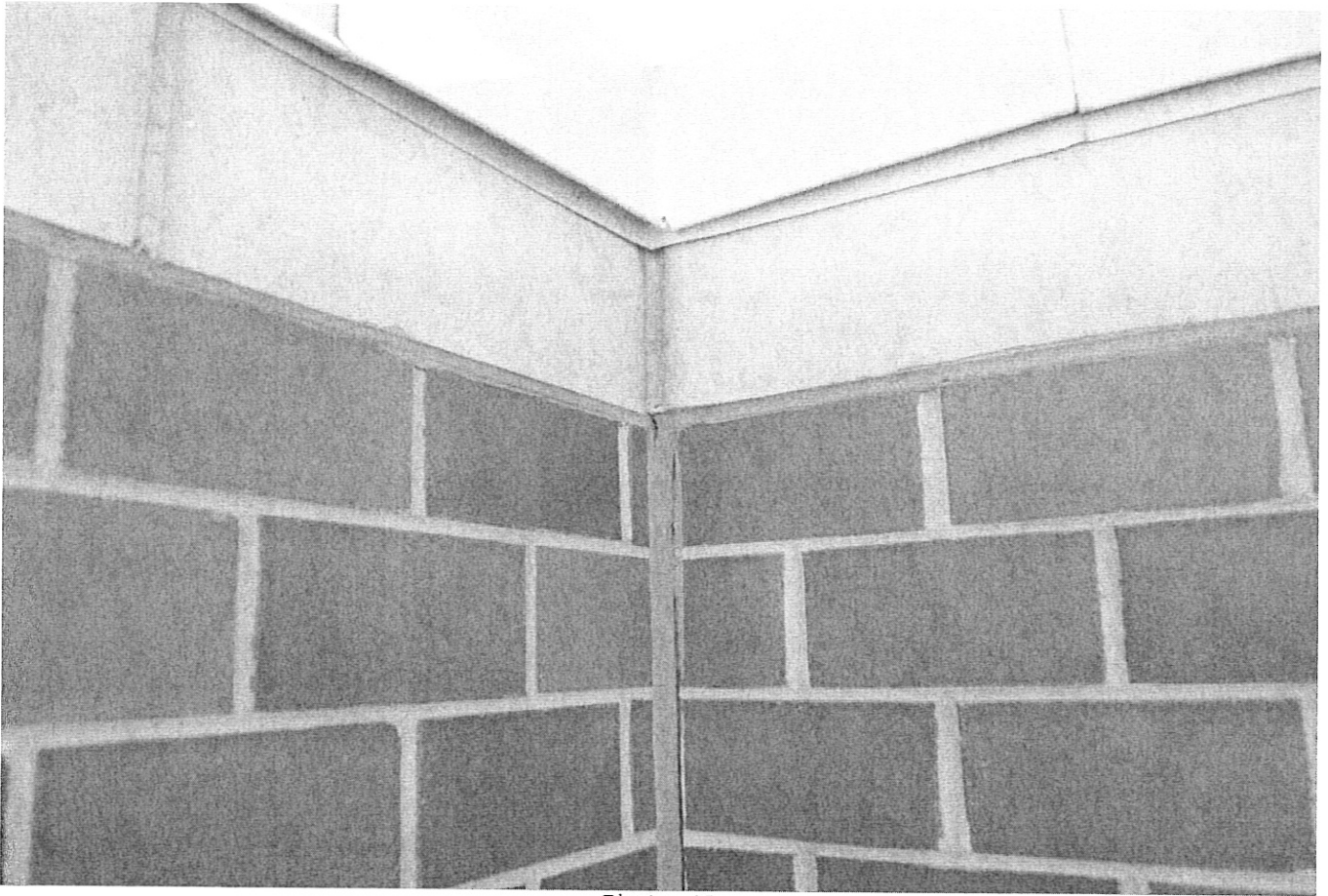


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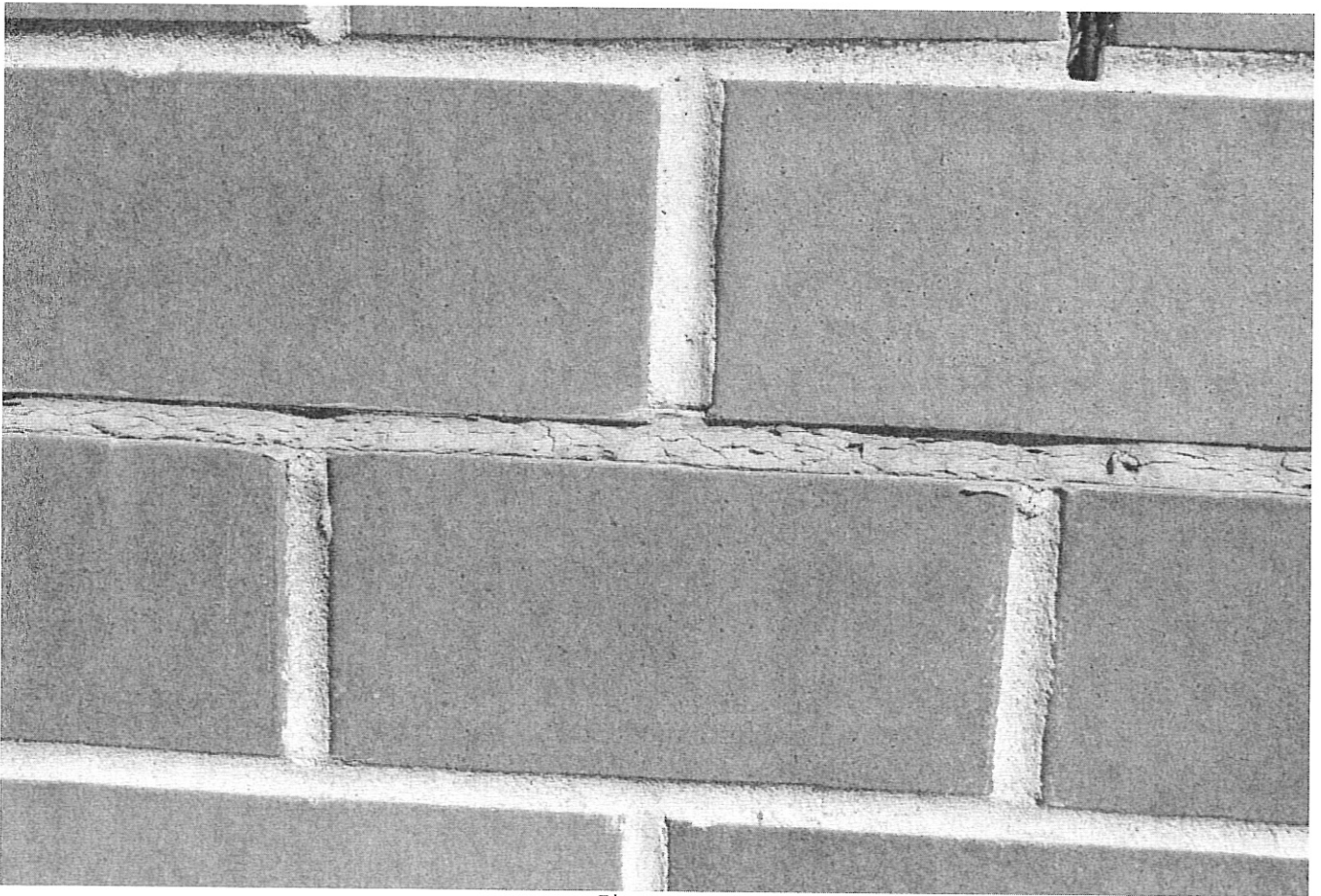


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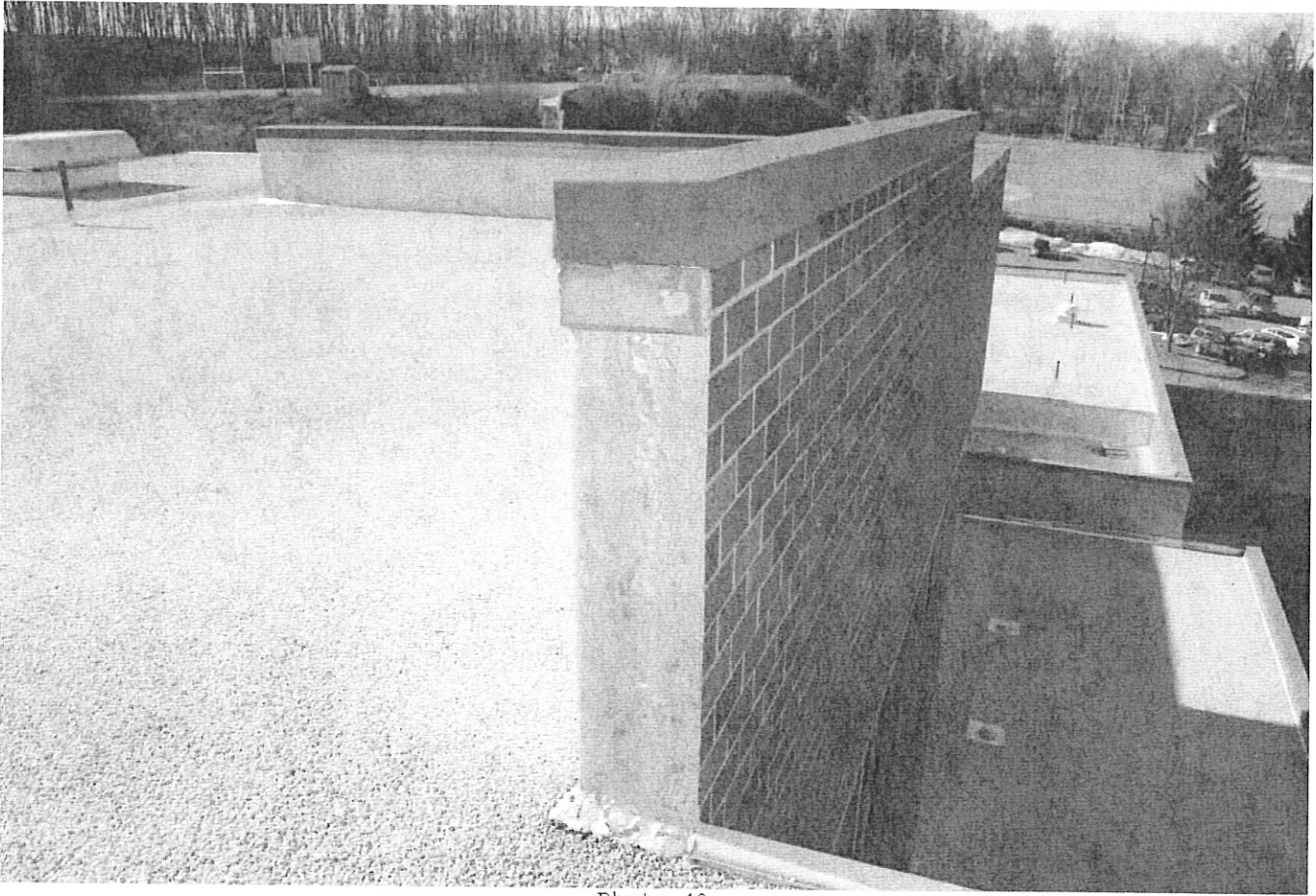


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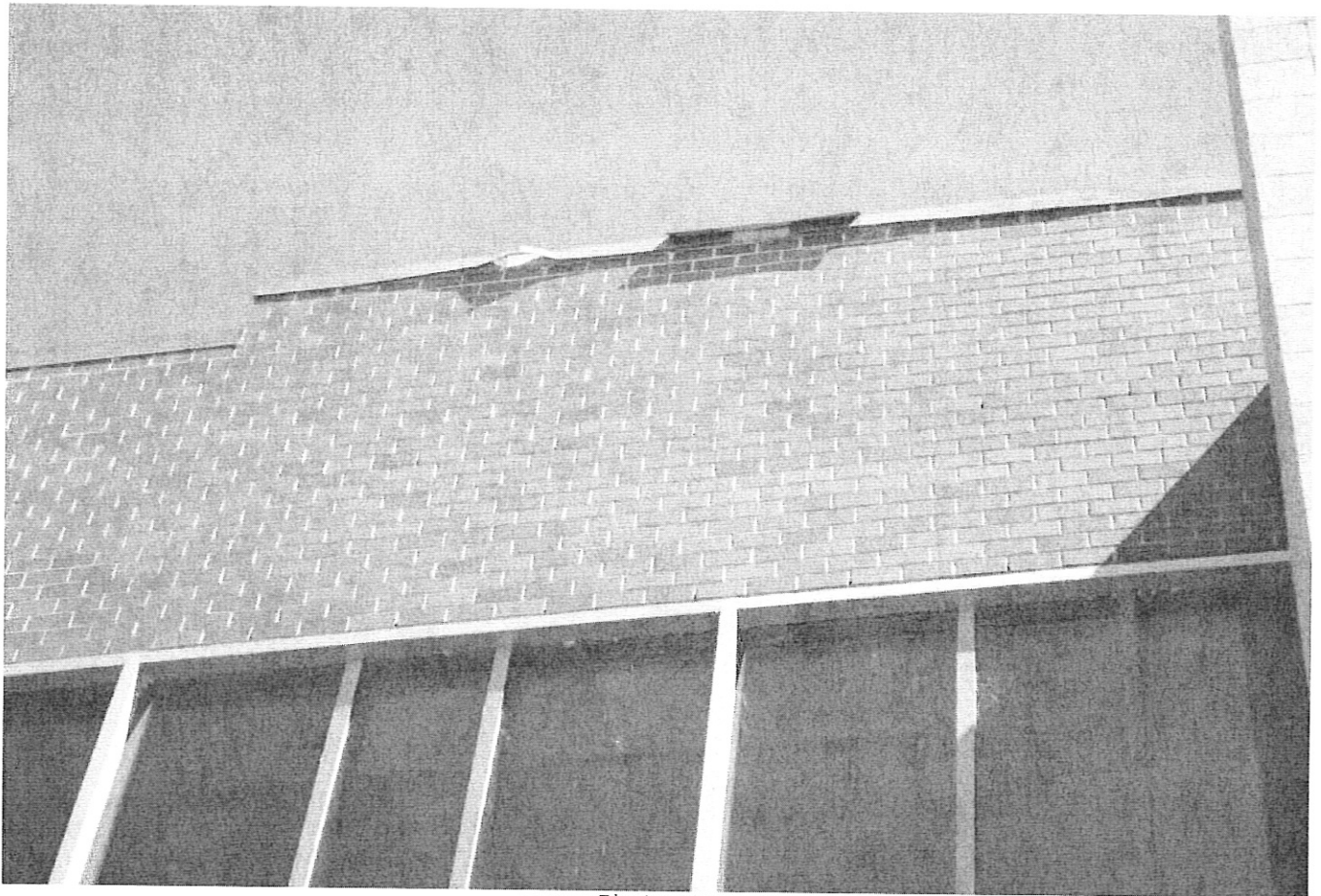


Photo 50

APPENDIX B



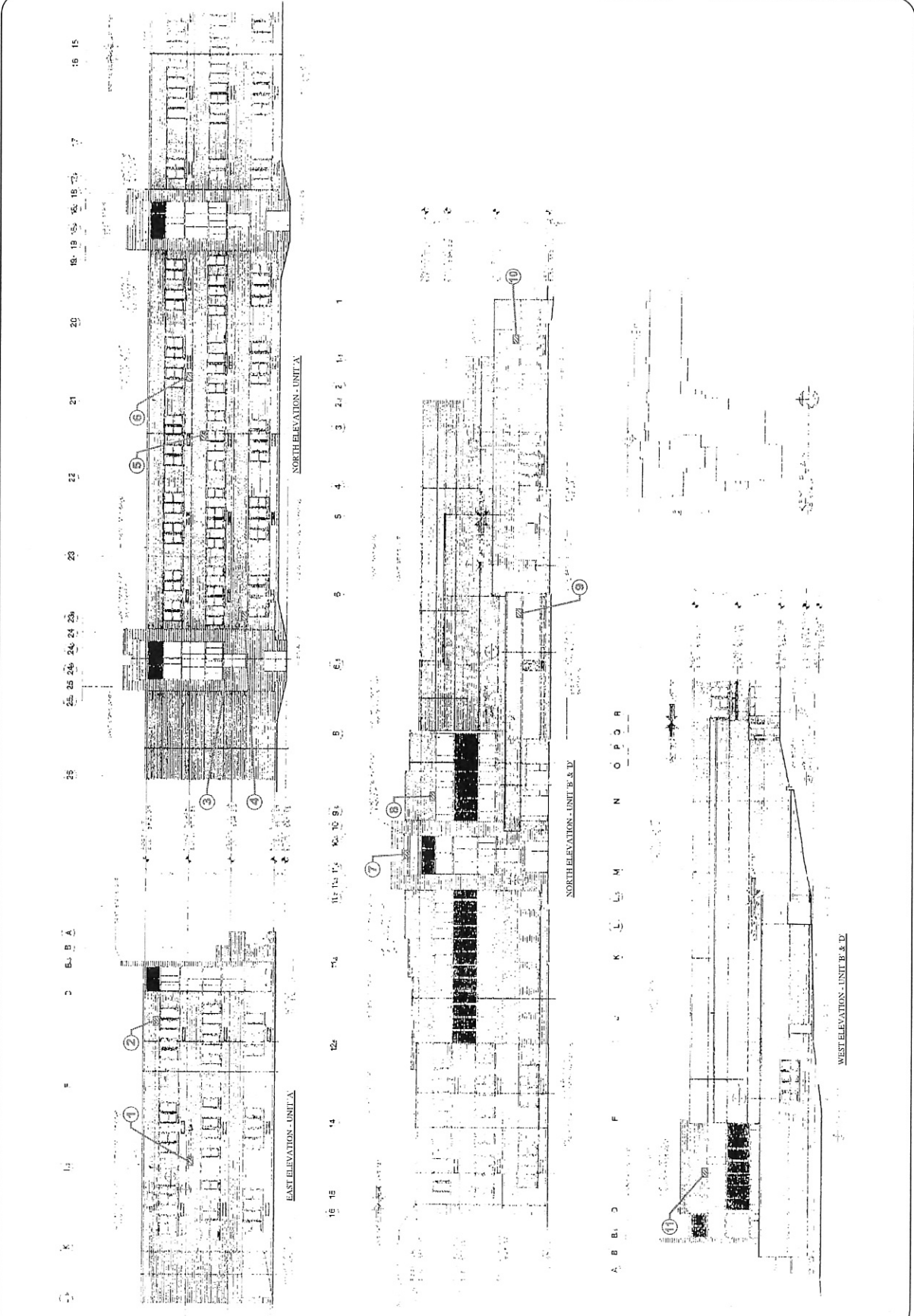
Revisions	
No.	By

EAST STROUDSGURG SCHOOL DISTRICT	J.T. LAMBERT INTERMEDIATE SCHOOL	MASONRY INVESTIGATION	EXTERIOR ELEVATIONS
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DHY Engineering, Inc.
 CONSULTING ENGINEERS Project Management / Facilities Engineering
 Structural Design & Analysis Forensic Engineering
 One East Broad Street, Bethlehem, PA, 18018
 610.329.1000 • (610) 329-0181 • www.dhy.com




Drawn: SGY
Appd.: RCC
Date: 11/18/16
Scale: NONE
Job No. 287005
Drawing No. SK-1



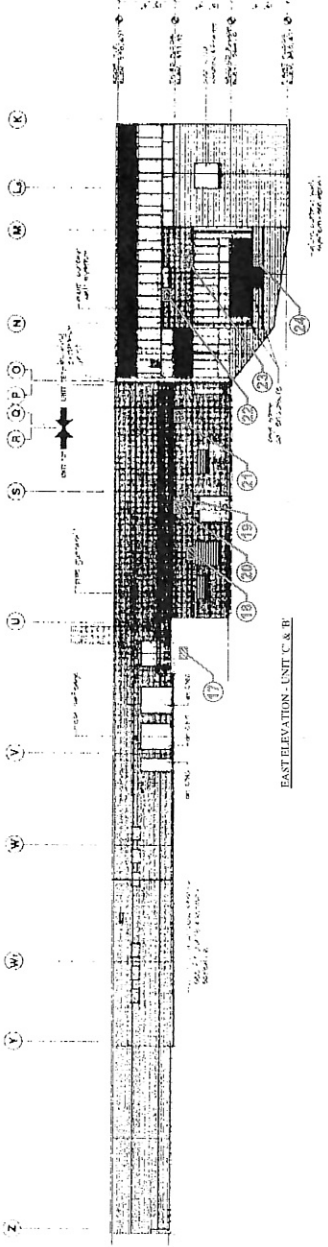
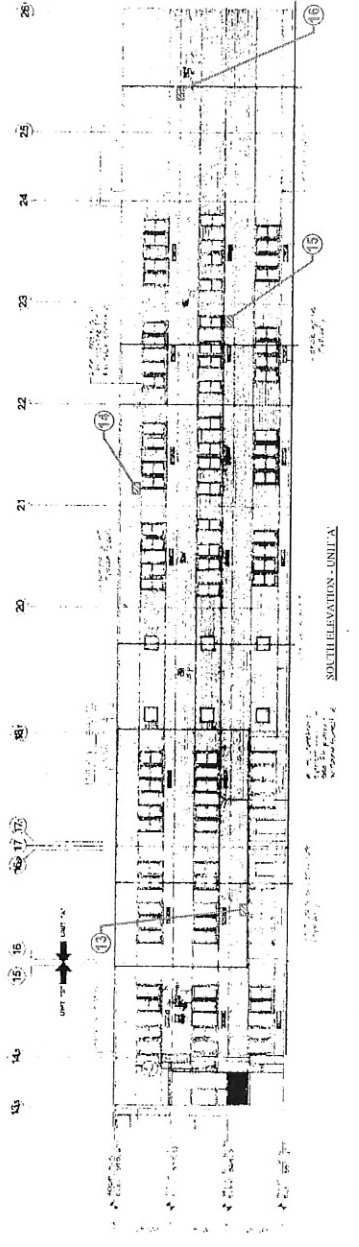
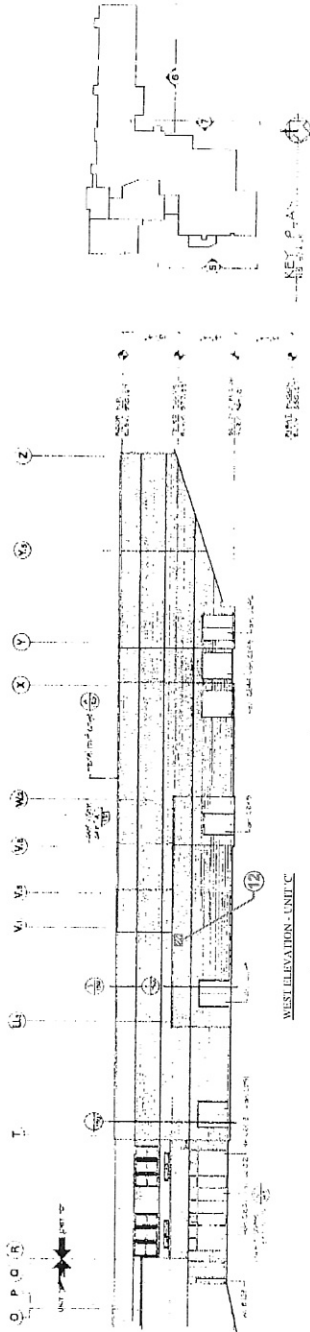
Revisions	
No.	By

EAST STROUDSGURG
SCHOOL DISTRICT
J.T. LAMBERT INTERMEDIATE SCHOOL
MASONRY INVESTIGATION
EXTERIOR ELEVATIONS

D'HY Engineering, Inc.
CONSULTING ENGINEERS Project Management Forensic Engineering
Structural Design & Analysis
One East Broad Street, Bethlehem, PA, 18018
610.429.1000 • 610.429.1001 • www.dhy.com



Drawn: SGY
Appd.: RCC
Date: 11/18/16
Scale: NONE
Job No. 287005
Drawing No. SK-2



Revisions		
No.	Date	By

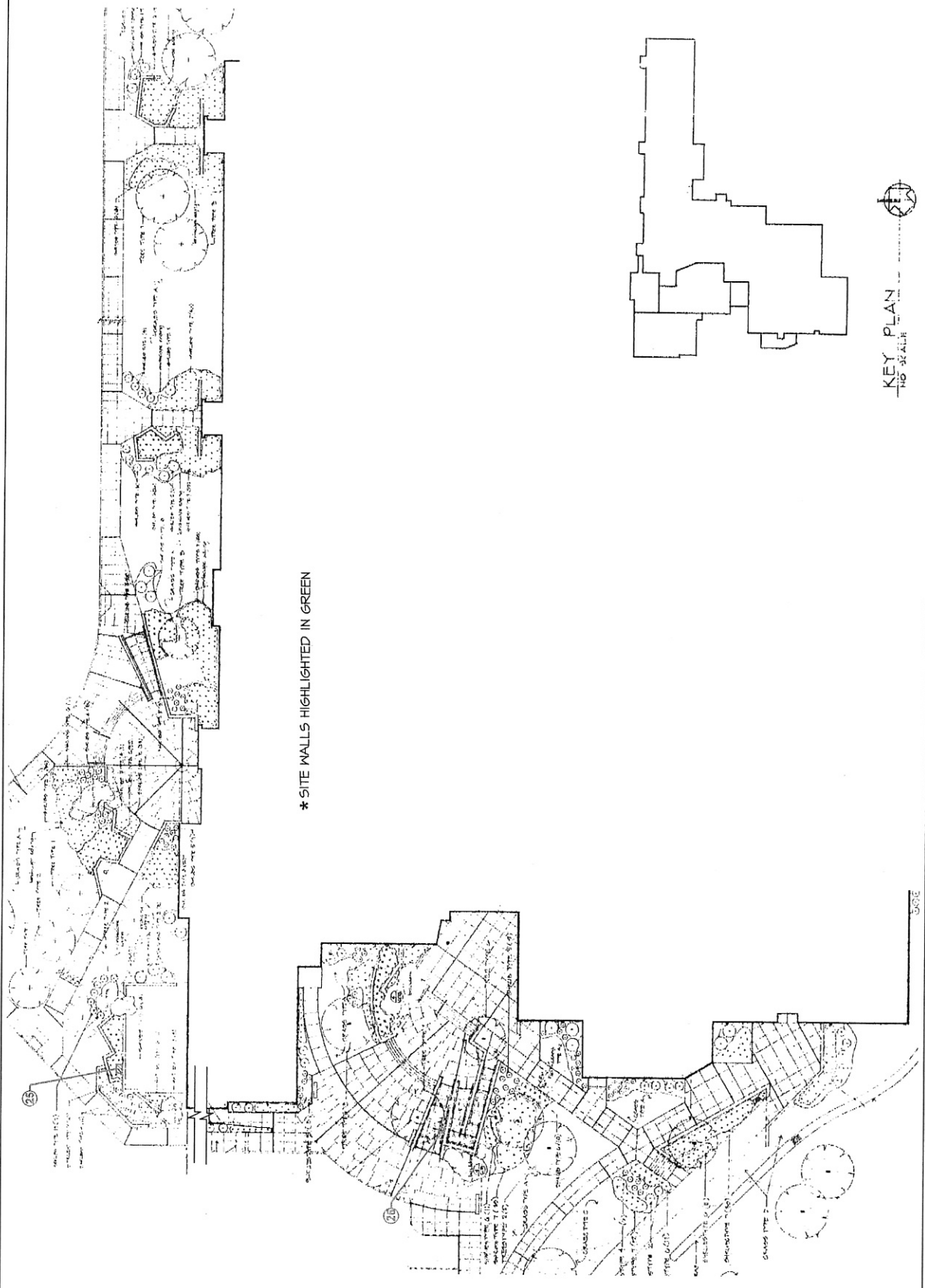
EAST STROUDSGURG
SCHOOL DISTRICT
J.T. LAMBERT INTERMEDIATE SCHOOL
MASONRY INVESTIGATION
EXTERIOR SITE PLAN

D'HY Engineering, Inc.
CONSULTING ENGINEERS: Project Management | Facilities Engineering
Structural Design & Analysis | Forensic Engineering




One East Broad Street, Bethlehem, PA 18018
610.862.1000 • 610.862.0188 • www.dhy.com

Drawn: SGY
Appd.: RCC
Date: 11/18/16
Scale: NONE
Job No. 287005
Drawing No. SK-3



KEY PLAN
NO SCALE



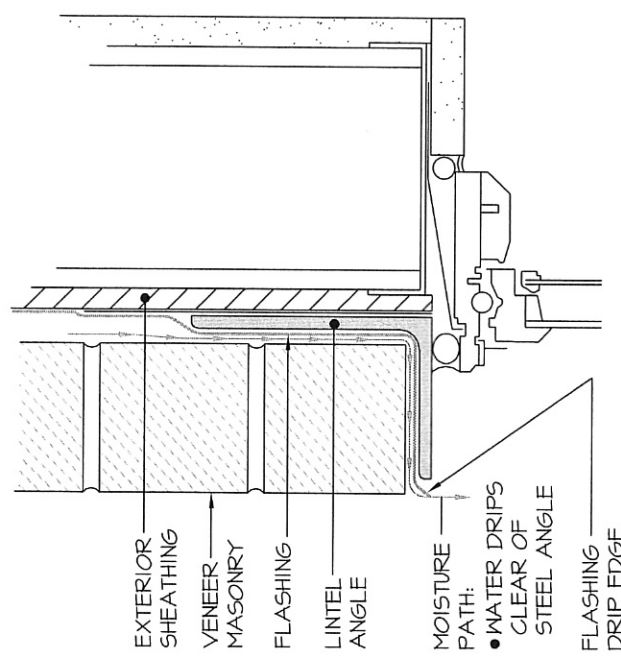
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No.	By

EAST STROUDSGURG SCHOOL DISTRICT	J.T. LAMBERT INTERMEDIATE SCHOOL	MASONRY INVESTIGATION	STEEL LINTELS
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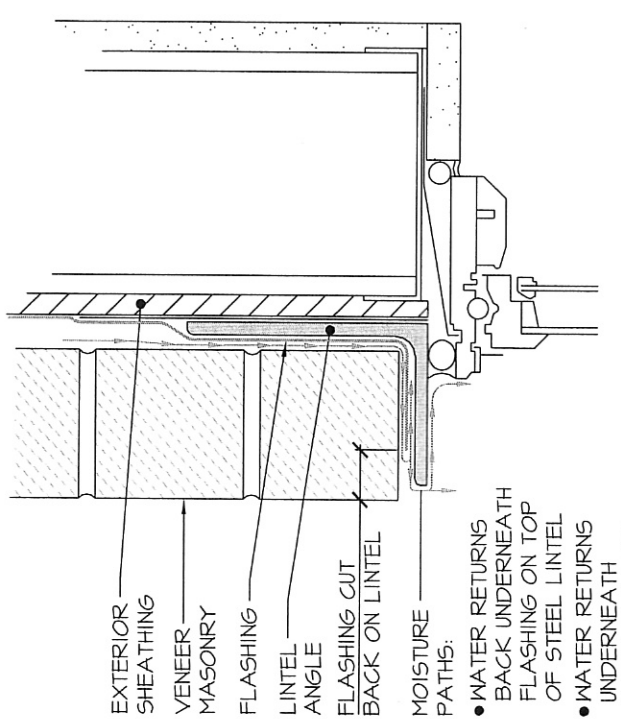
DHY Engineering, Inc.
 CONSULTING ENGINEERS | Project Management | Facilities Engineering
 Structural Design & Analysis | Forensic Engineering
 One East Broad Street, Bethlehem, PA, 18018
 (610) 861-0111 • www.dhy.com



Drawn: SGY	Date: 11/21/16
Appd.: RCC	Scale: NONE
Job No. 287005	Drawing No. SK-4



(A) EXISTING CONDITION



(B) PROPER LINTEL FLASHING

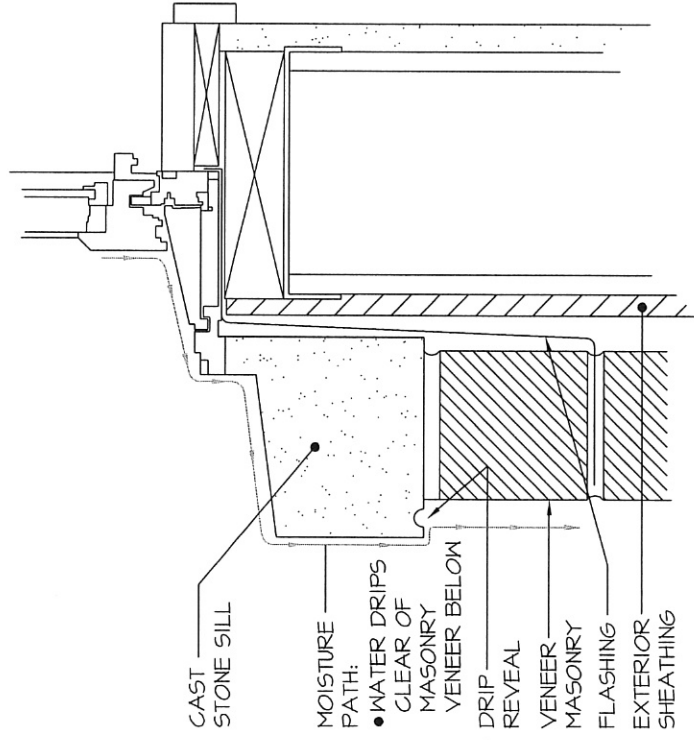
WINDOW HEAD, STOREFRONT HEAD, LOUVER HEAD AND OTHER STEEL LINTEL LOCATIONS

Revisions	
No.	By

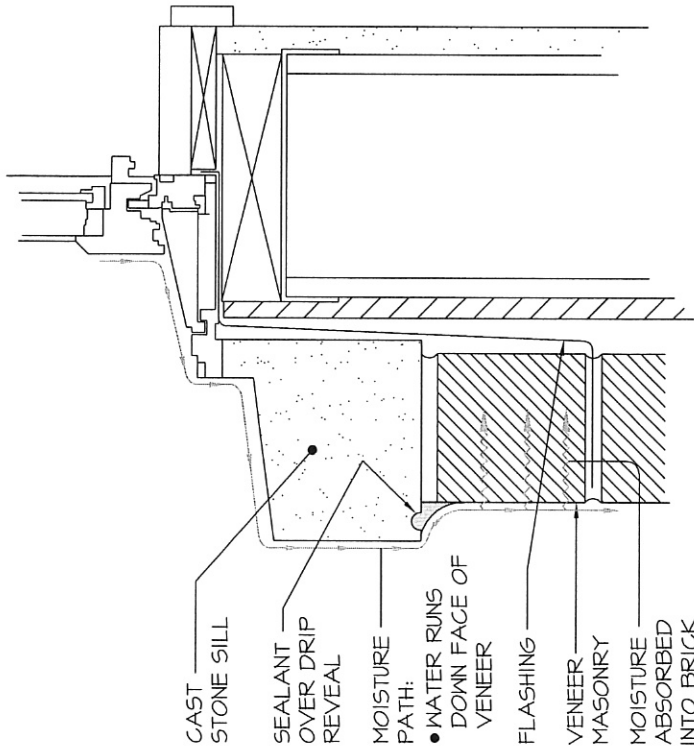
EAST STROUDSGURG SCHOOL DISTRICT	J.T. LAMBERT INTERMEDIATE SCHOOL	WINDOW SILLS
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DEI
 CONSULTING ENGINEERS: Project Management | Fabric Engineering
 Structural Design & Analysis | Forensic Engineering
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 610.663.1099 • 610.901.0133 • www.dei.com

Drawn: SGY	Appd.: RCC
Date: 11/21/16	Scale: NONE
Job No. 287005	Drawing No. SK-5

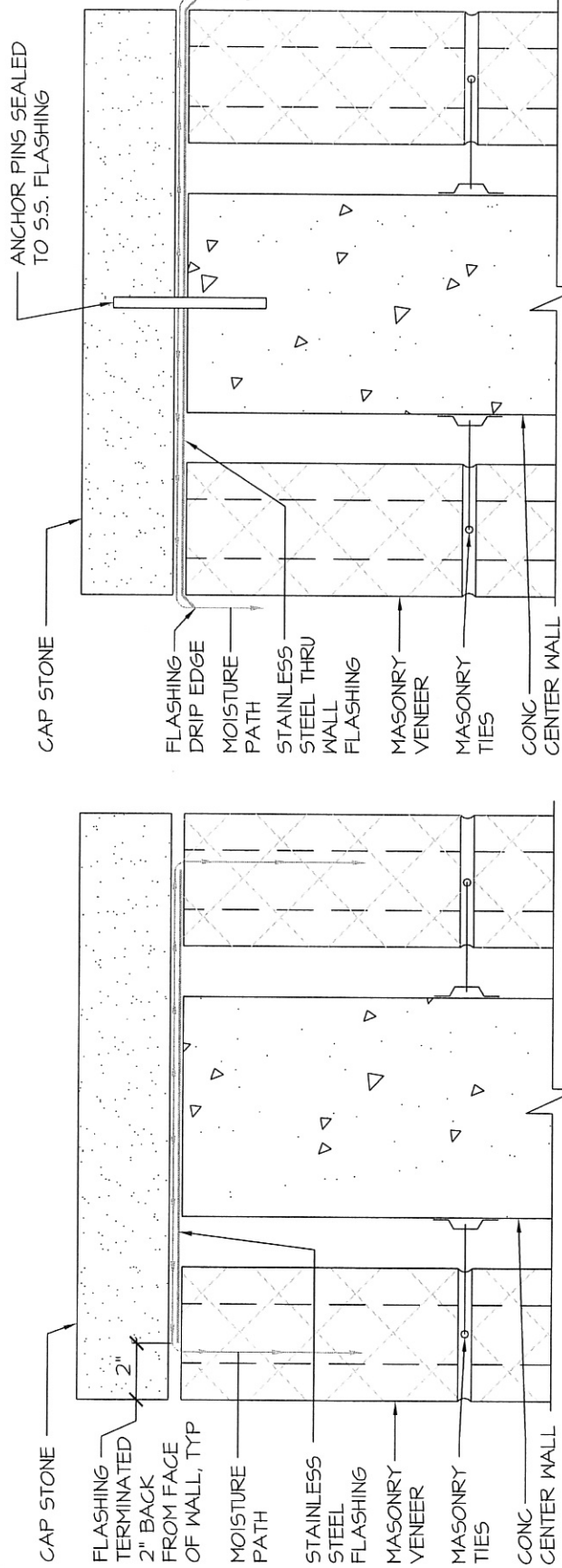


(B) PROPER SILL DRIP EDGE



(A) EXISTING CONDITION

WINDOW SILL DETAILS



(A) EXISTING CONDITION


(B) PROPER SITE WALL CAP FLASHING

SITE WALL COPING CAP DETAILS

Revisions	
No.	By

EAST STROUDSGURG
SCHOOL DISTRICT
J.T. LAMBERT INTERMEDIATE SCHOOL
MASONRY INVESTIGATION
SITE WALLS

D'HY Engineering, Inc.
CONSULTING ENGINEERS: Project Management | Facilities Engineering
Structural Design & Analysis | Forensic Engineering
One East Broad Street, Bethlehem, PA 18018
610.663.1000 • (610) 663.0711 • www.dhy.com



Drawn:	SGY
Appd.:	RCC
Date:	11/21/16
Scale:	NONE
Job No.:	287005
Drawing No.:	SK-6



November 21 2016

Mr. Scott Ihle
Director of Facilities
East Stroudsburg Area School District
50 Vine Street
East Stroudsburg, PA 18301

RE: East Stroudsburg Area School District
North High School Masonry Investigation
DEI Project No. 287005

Dear Mr. Ihle,

The following report summarizes our investigation of the masonry facade problems at the East Stroudsburg Area School District's North High School located in Dingmans Ferry, PA. The photographs and sketches referenced in the following report are provided in Appendices A and B, respectively.

1. BACKGROUND

Constructed in 1998-1999, the North High School is a steel framed structure clad predominantly with brick masonry. Currently, the exterior brick veneer on the north facing elevation of the natatorium is in poor condition. The mortar joints are crumbling, numerous brick are spalling, the wall is bowing out of plane and efflorescence is widespread over the exterior surface of the wall. There are signs of similar deterioration on the brick wall at the south elevation of the natatorium, but to a far lesser extent.

Based on the above, DEI was engaged to conduct a condition assessment of the brick veneer to evaluate and determine the causes of deterioration, assess the extent of damage and develop a preliminary scope and budget for restoration. This investigation phase included close-up observations of conditions using a moveable pipe scaffolding system and cutting probes into various wall areas to facilitate a detailed analysis of the causes of brick veneer deterioration.

The brick wall condition assessment as summarized in this report is considered Phase 1 of this project. Pursuant to the findings of this study and report, a second phase will be required for the purpose of developing bid documents for restoration and rehabilitation work and executing construction administration services during the restoration work.

2. SCOPE OF STUDY

As part of this condition assessment study, DEI performed the following scope of work:

1. Reviewed architectural drawings from the original construction provided by the Facilities Department.
2. Performed field surveys as required to visually assess and obtain photographic documentation of existing conditions and determine as-built construction details. As part of our investigation, DEI performed the following field surveys:
 - a. Detailed probe survey on August 9, 2016: Performed close-up examination of upper areas of the exterior facade components from a scaffold system. Oversaw and documented investigative probes into the masonry facade. Probe work was performed by C & D Waterproofing, Inc.
 - b. Photographic Documentation: Photographs were taken to document existing conditions of the exterior facade components and details. Approximately 170 photographs were taken, including photographs of full elevation views of the north and south walls of the natatorium and close-ups of masonry areas and selected details.
3. Performed probe openings at selected locations on the north wall of the natatorium as noted above. Sketch SK-1 identifies probe locations on the building elevation. Probe work was executed as follows:
 - a. Masonry components were opened up by selective demolition at five (5) locations to determine existing construction details. Openings were made systematically to study the condition of masonry units and mortar, assess the presence of moisture in the wall; evaluate flashing locations and details, and verify veneer anchoring systems.
 - b. As-constructed details were determined through the probe process and compared to the details provided on the original construction drawings.
4. Evaluated and analyzed data obtained from drawing reviews, probes and field surveys.
5. Evaluated repair options to address the various areas of deterioration and water intrusion issues.
6. Developed rehabilitation and retrofit concepts.
7. Prepared preliminary budget estimates for proposed rehabilitation work.
8. Prepared a report, summarizing findings, recommendations for remediation and budget estimates associated with executing recommended repairs.



3. DESCRIPTION OF NATATORIUM WALLS

The natatorium walls at North High School consist of brick masonry tied back to concrete masonry unit (CMU) back up walls laid up within, and supported by, the structural steel framing of the building. Photos 1 and 2 depict the north wall and south wall elevations, respectively. The design calls for a 4" cavity between the brick veneer and CMU backup that includes ½" of parging over the CMU, 3" of spray foam insulation and ½" of air space directly behind the brick veneer (Reference Sketch SK-2, which shows the cross-sectional view of the north wall of the natatorium as provided on Sheet 151 of the original architectural drawings).

The roof edge detail calls for a metal fascia attached to wood blocking that is supported by and attached back to a steel edge angle (Reference "Enlarged Roof Edge Detail" on Sketch SK-2). The edge angle is connected to the structure steel spandrel beam at the roof level. The drawings indicate that the metal fascia piece is to overlap the brick veneer by 1". The spray foam insulation (highlighted in yellow on Sketch SK-2) is shown to fully cover the beam flange and almost all of the edge angle.

4. FINDINGS

4.1 Brick Veneer

The typical exterior masonry cladding at the natatorium is designed as a cavity wall system. The brick units are intended to be the primary weather barrier. Any water which penetrates through the brick enters the cavity between the exterior veneer units and the CMU with spray on insulation back-up. It is expected that this water will flow down the back of the veneer units and collect at the through wall flashing at the adjacent roof line. These flashings are intended to collect the water and direct it back out of the wall through weeps holes (Reference the base of wall detail in Sketch SK-2).

The veneer wall evidences significant signs of deterioration, including mortar joint deterioration and out of plane movements. The wall has been repointed since the time of its original construction; however, the pointing mortar is now failing over the entire wall area revealing severely deteriorated mortar deeper in the joint areas (Photos 3 and 4). Probes cut into the masonry wall indicate that the mortar is soft and crumbling for the full depth of the joints (Photos 5 and 6). There is minimal bond strength between the mortar and brick units, and no structural integrity left in the mortar material itself. This condition was observed at each of the 5 probe locations, as well as numerous wall surface areas, and is believed to be prevalent throughout the entire wall elevation.

It appears that this wall may have been exposed to freezing temperatures prior to final curing of the mortar. When the mortar temperature drops below freezing prior to being fully cured, it experiences disruptive expansive forces due to the increase in volume of water when it is



converted to ice. This results in significant reductions in the mortar's compressive strength as well as in its weather-resistant characteristics. Also, wet or ice-covered brick unit surfaces prevent development of a good bond between the mortar and brick. The conditions of this wall are consistent with a wall constructed during periods of freezing temperatures.

Efflorescence was also widespread on the exterior surface of the wall (Photos 7 and 8). Efflorescence is a white, powder-like deposit caused by soluble minerals within the wall being carried to the face of the wall by moisture and deposited as residue when the water evaporates. These mineral deposits evidence that this wall is absorbing abnormally high amounts of moisture, which is likely due to the increased porosity of mortar that had frozen prior to full cure.

Probes into the wall also revealed areas where brick ties were not engaged between the CMU backup wall and the brick veneer (Photos 9 and 10). The lack of lateral support has enabled the wall to shift outward, resulting in the out of plane movements observed at some locations.

4.2 Fascia Installation

The fascia follows the slope of the roof and slips up under the roof edge cap and is attached back to wood blocking. As noted earlier, the drawings call for only a 1" overlap of the brick. Our field observations indicate that even this minimal overlap was not achieved at some locations (Photo 11), and the blocking behind the fascia at some places is not flush with the face of brick and remains exposed (Photo 12). There also appears to be inadequate accommodation of thermal movements in the metal edge and fascia assembly. At some fastener locations, localized distortion of the metal pieces and fasteners was observed (Photos 13 and 14).

4.3 Spray Foam Insulation

The architectural drawings are not explicit as to whether the edge angle, which supports the wood blocking behind the fascia, is to be continuous or consisting of shorter clip angles installed at a given spacing (Reference enlarged detail on Sketch SK-2). The as-constructed detail provided clip angles spaced at approximately 3' on center (Photo 15). The spray foam insulation does not cover the top flange of the spandrel beam, or the clip angle and blocking as detailed on the architectural drawings (Sketch SK-2). In addition, the insulation does not appear to be 3" thick as noted on the drawings. Note in Photo 15 that there is a gap in the steel members, that absent spray foam coverage, permits interior air to escape into the cavity. In fact, there was a distinct chlorine smell evident at the probe locations.

4.4 South Wall

The section of the south wall that is accessible from an adjacent roof has been repointed recently (noted in Sketch SK-1), and appears to be performing adequately (Photo 16). The south wall evidences some joint deterioration, particularly on the upper areas of the wall, but to a much lesser extent than on the north wall (Photos 17 through 20). Lower areas of the south wall appear to be in adequate condition.



5. RECOMMENDATIONS FOR REHABILITATION

Based on the above, we recommend that the following remedial work be implemented to address the various problems at the North High School. The recommended repairs are prioritized for the District's use in determining the extent of work in consideration of possible budgetary constraints.

- 5.1 North Wall - Given the extent of mortar deterioration and wall movement and the ongoing exposure to water intrusion through porous mortar joints, it is not feasible to attempt to rehabilitate the brick veneer wall at the north side of the natatorium. The only feasible course of action is to remove the veneer in its entirety, down to the base flashing line and reconstruct the veneer wall. We anticipate that this work will include the following:
- a. Demolition and disposal of existing brick units
 - b. Removal of fascia metal
 - c. Adding brick veneer ties as needed to supplement existing ties
 - d. Applying additional spray foam insulation as required to achieve the 3" design thickness, and as necessary at the top of the wall to close any gaps in the areas of the beam flange, clip angle and wood blocking assembly
 - e. Installation of new flashing and weep systems at the base of the wall
 - f. Installation of new brick veneer, including reconstruction of control joints
 - g. Installation of new fascia metal to provide more overlap at top of brick veneer
- 5.2 South Wall - Deteriorated mortar joints should be repointed. It does not appear that repointing of the entire wall will be necessary, but rather at upper wall areas that exhibit mortar joint deterioration. We anticipate that the required repairs will include the following:
- a. Grind back deteriorated mortar to sound material (3/4" minimum depth)
 - b. Repoint mortar joints using matching mortar
 - c. Clean wall and apply a water repellent to reduce water absorption into the wall

6. BUDGET ESTIMATE FOR REHABILITATION WORK

Pursuant to the above recommended repair scope, DEI prepared a budget estimate for the construction costs associated with rehabilitation work. The estimate includes general requirements, such as mobilization, demobilization, supervision, scaffolding, equipment, bonds, final cleaning, etc. The owner would provide use of water and electricity.

The Construction Budget Estimate incorporates the following assumptions:

1. This will be a prevailing wage project using the current Monroe County Wages.
2. Construction will be bid within the next 12 months with a duration of less than 12 months.



Mr. Scott Ihle
East Stroudsburg Area School District
November 21, 2016
Page 6 of 6

3. Access to the site is reasonable and there will be areas available for material laydown, storage trailers, office trailers and worker parking.
4. Work can be scheduled and phased such that it can be performed during normal shift hours.

Budget Estimate:

a. Items in Sections 5.1 through 5.2	= \$ 242,000
b. 10% Contingency	= \$ 24,200
c. Fees, Permits and Construction Testing (10%)	= \$ 26,600
Total Budget	= \$ 292,800

This estimate is based upon information gathered during the condition assessment, including the findings relative to the problems observed, review of as-built drawings and details, quantification of the extent of the various repairs and preliminary determination of conceptual retrofit procedures and methodology. This process included using our best judgment regarding the most cost effective way to carry out the remediation and rehabilitation activities. It would be prudent as part of the subsequent design phase to perform a mock-up of the repair scope at one window location to confirm construction scope assumptions prior to bidding. This estimate should be updated during the design phase to reflect design development progress as the scope of work, construction details, methods of repair and final materials are selected and finalized.

If you have any questions, please contact me.

Sincerely,



Ronald C. Carr, P.E.
Principal

Attachments: A Report Photos
B Report Sketches

RCC/dak
287 EASD/287005 JT Lamber N HS Masonry Invest/North High School Masonry Fac Rep 11 17 16



APPENDIX A



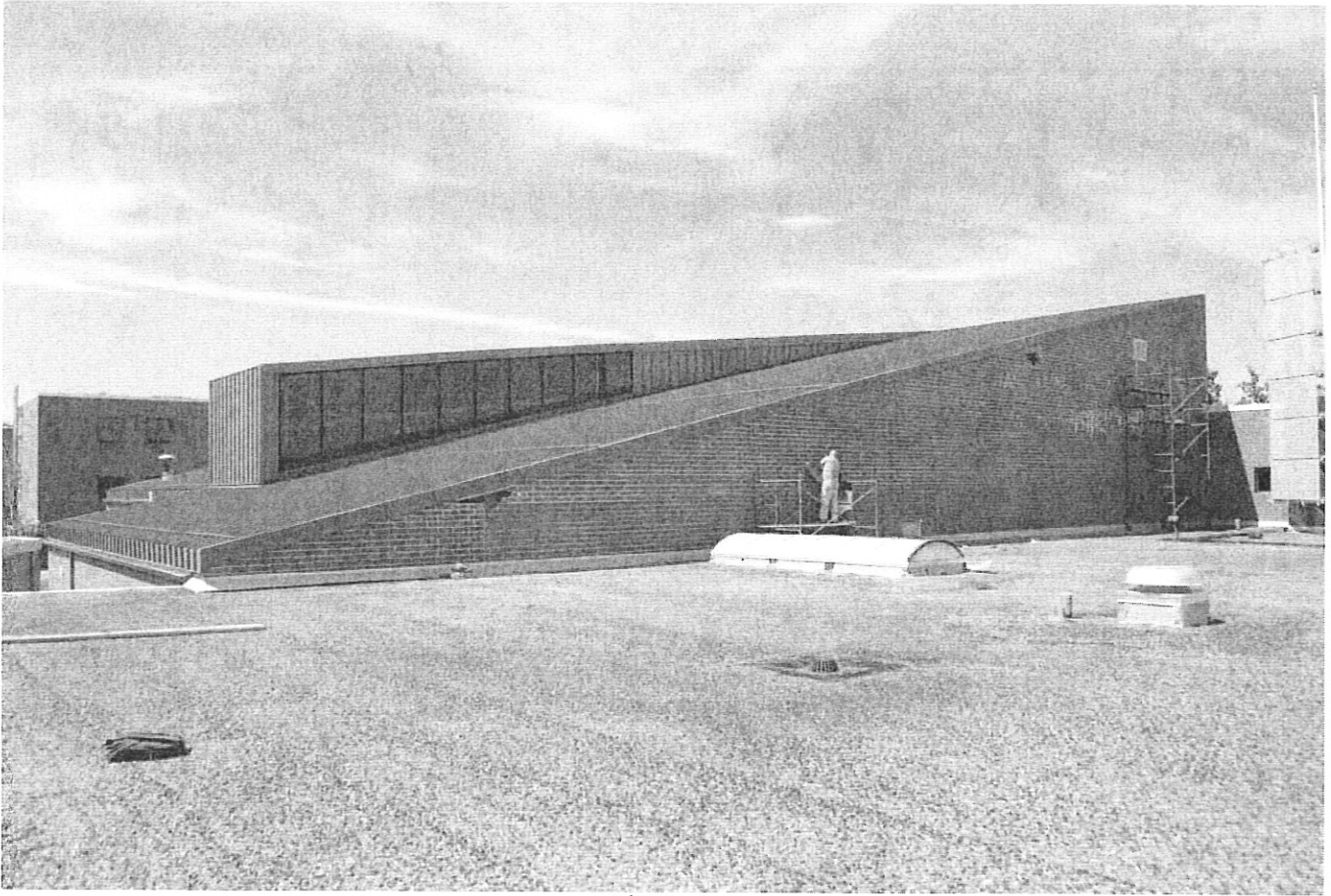


Photo 1

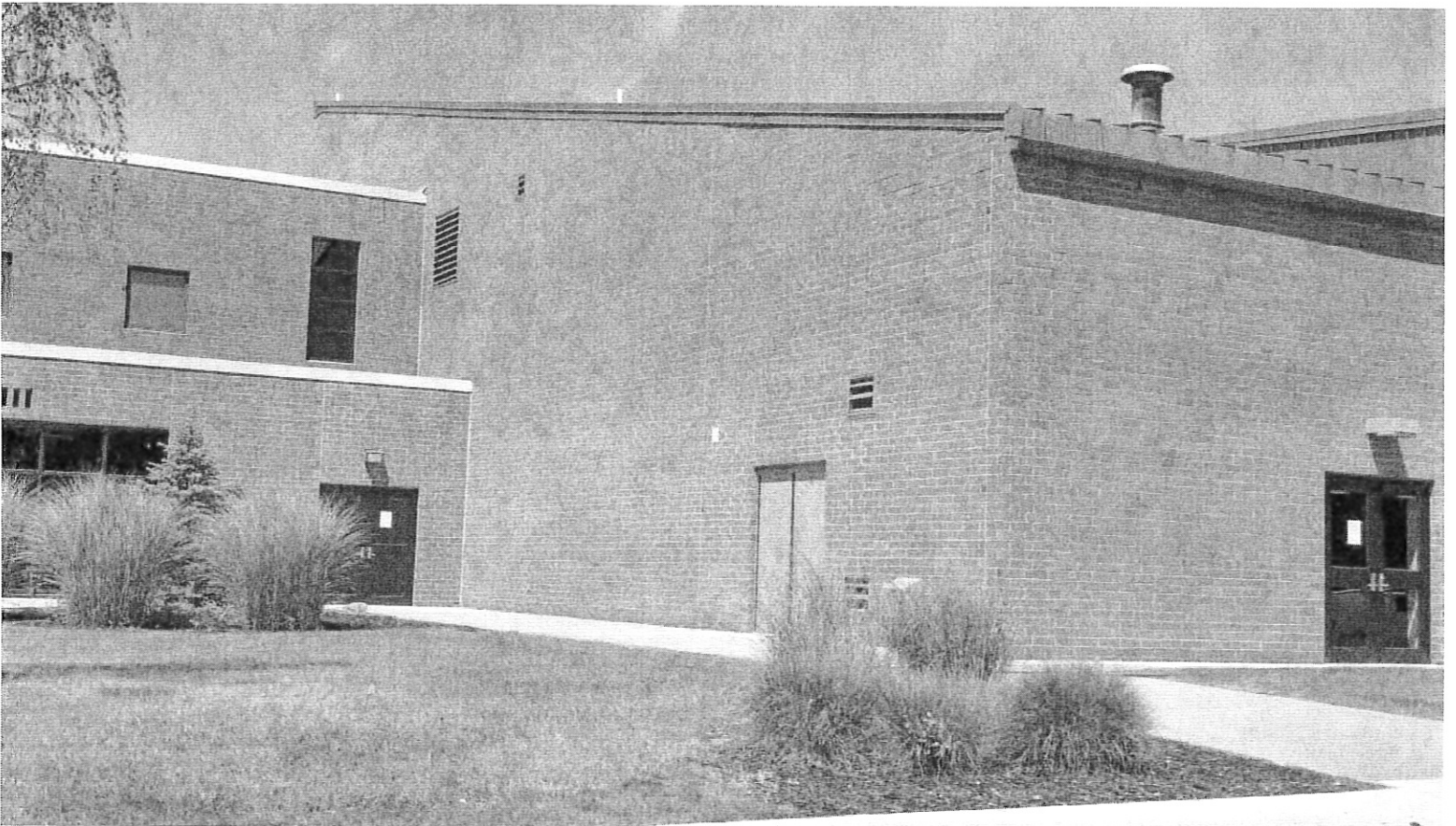


Photo 2



Photo 3

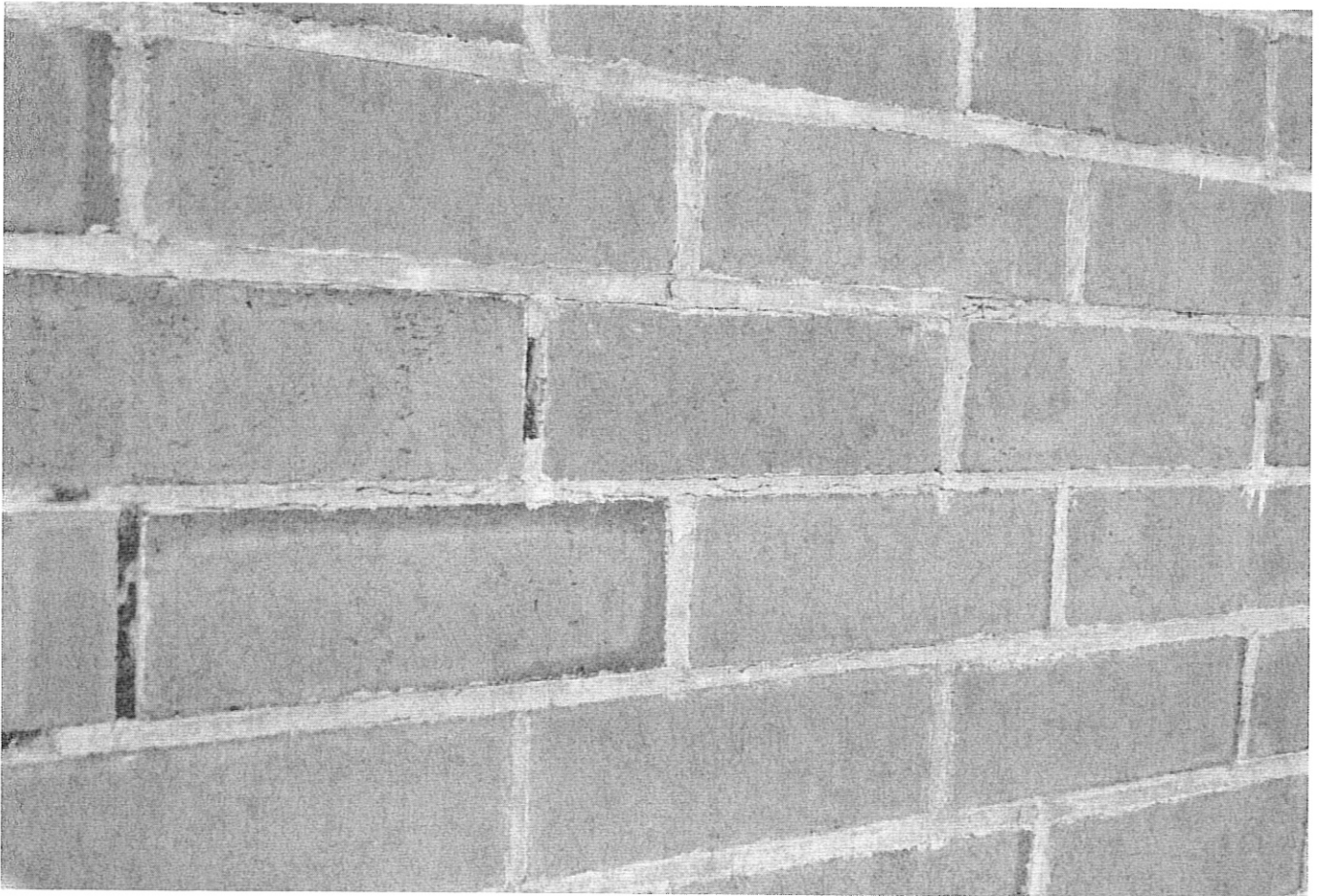


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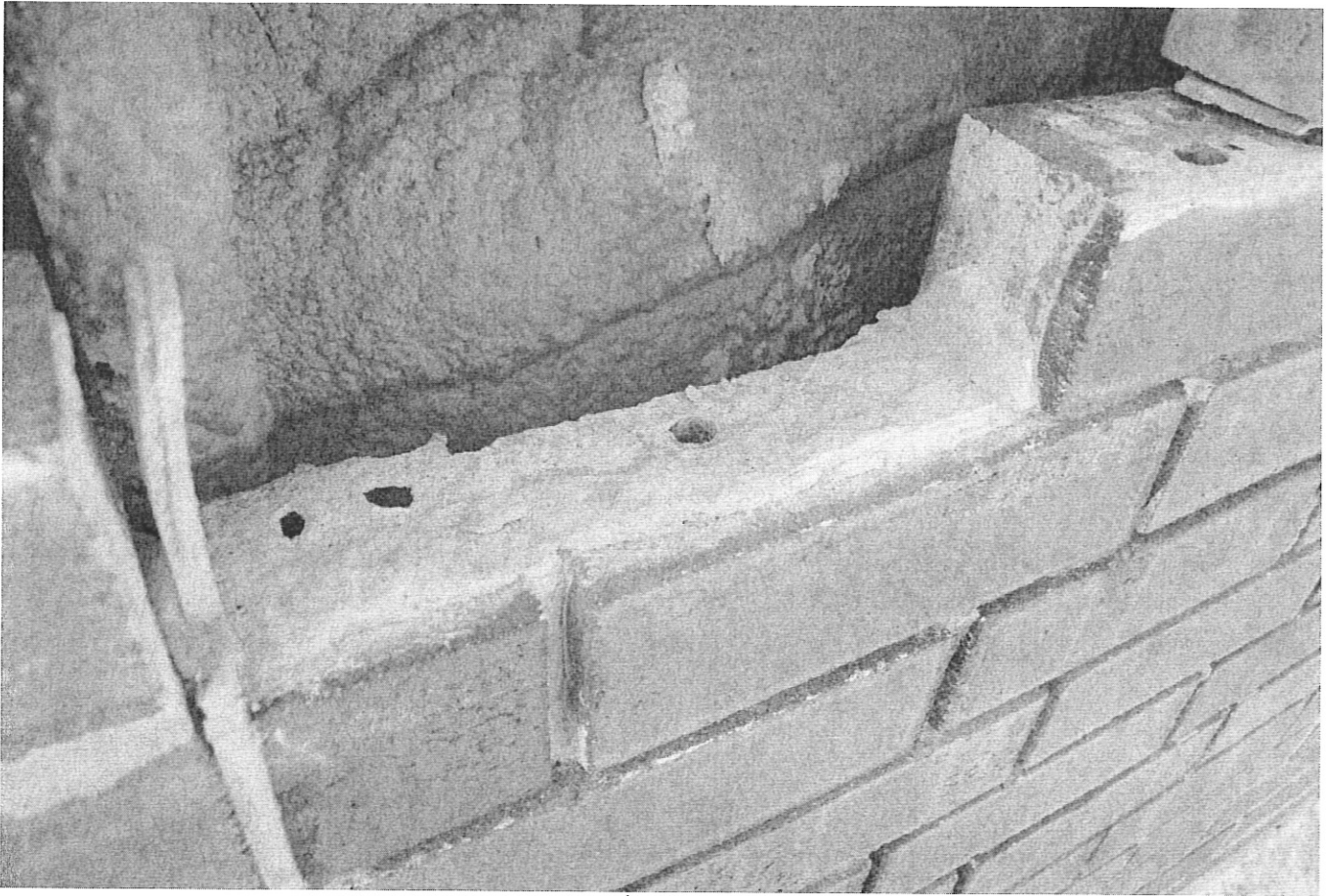


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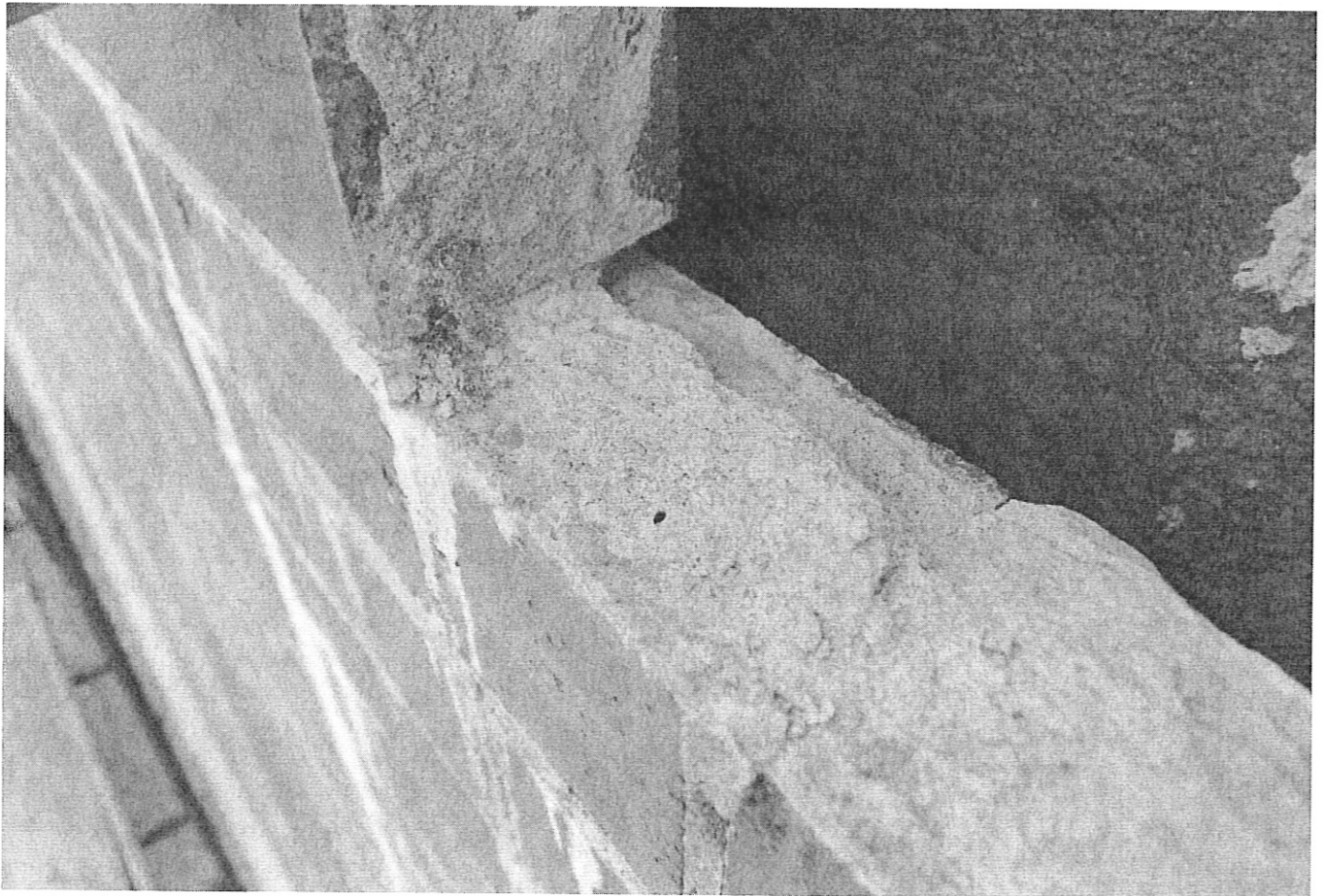


Photo 6



Photo 7



Photo 8

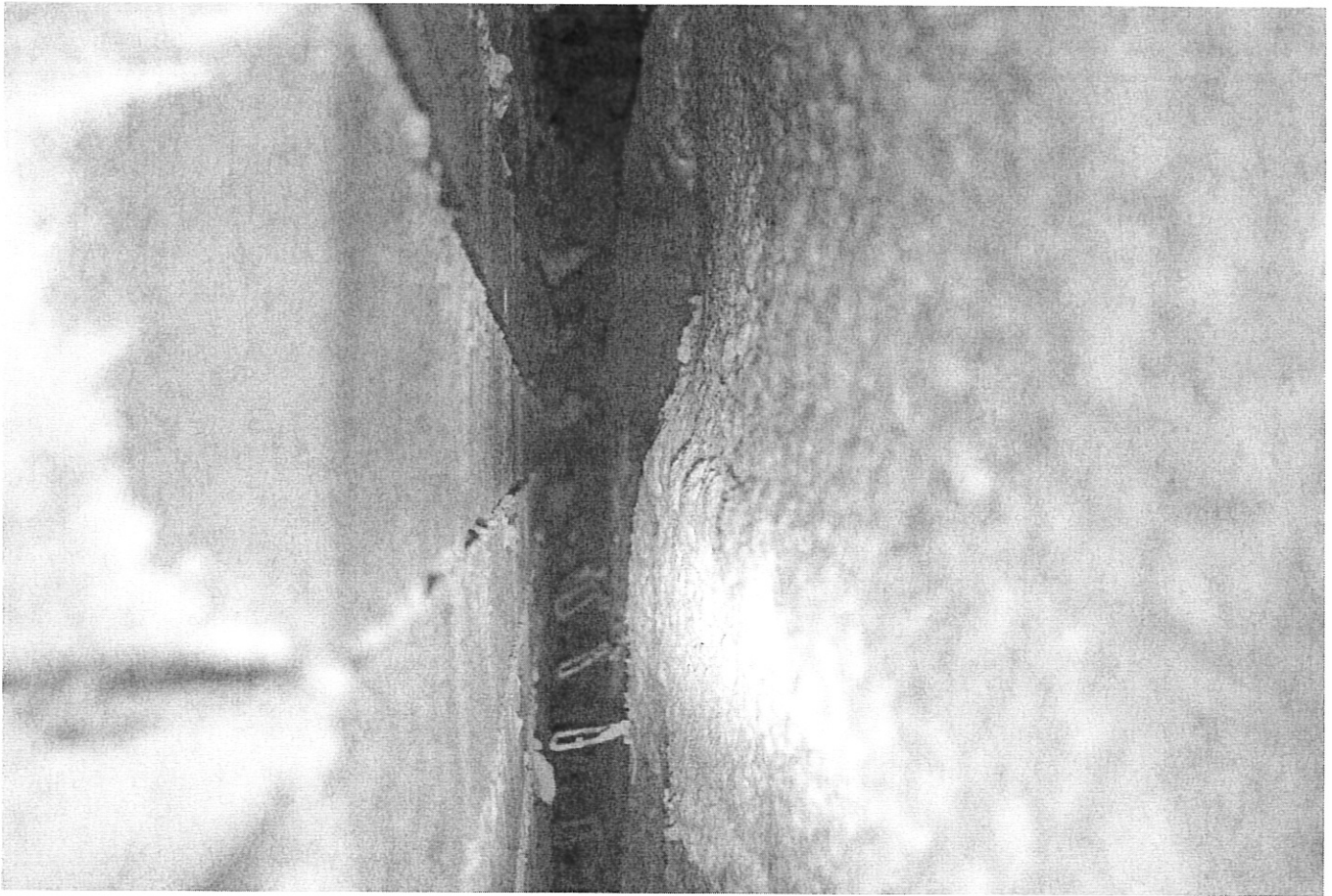


Photo 9



Photo 10

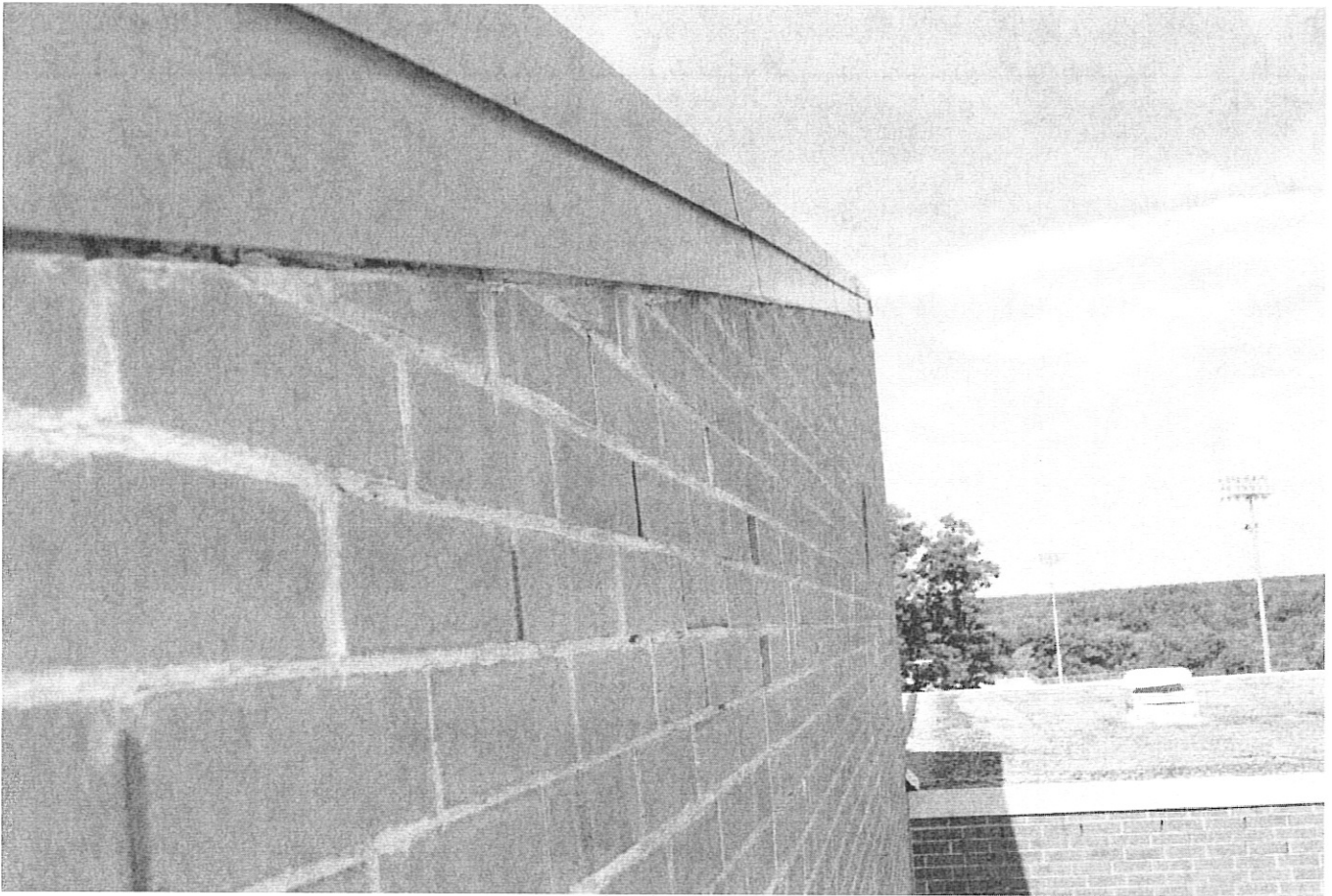


Photo 11

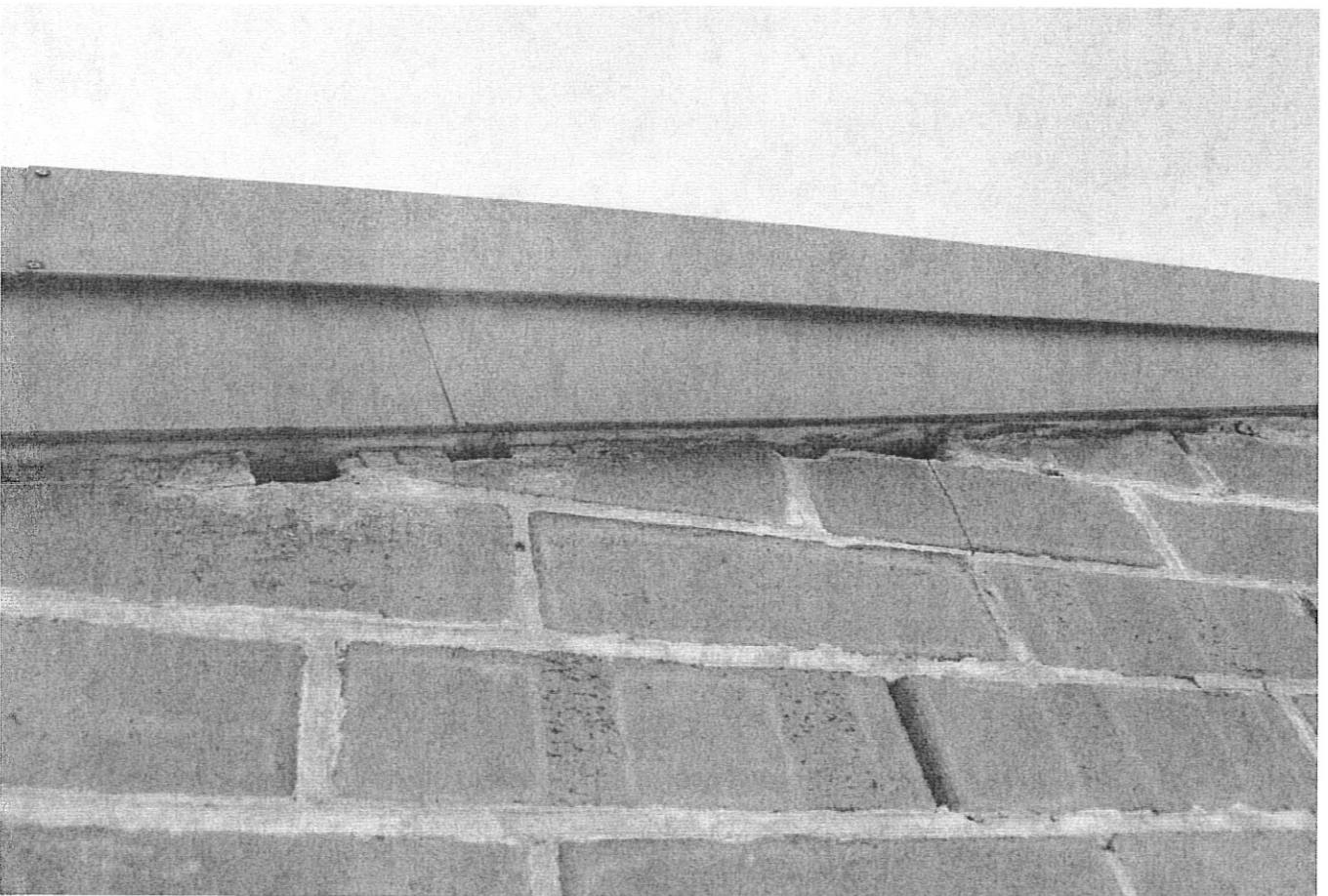


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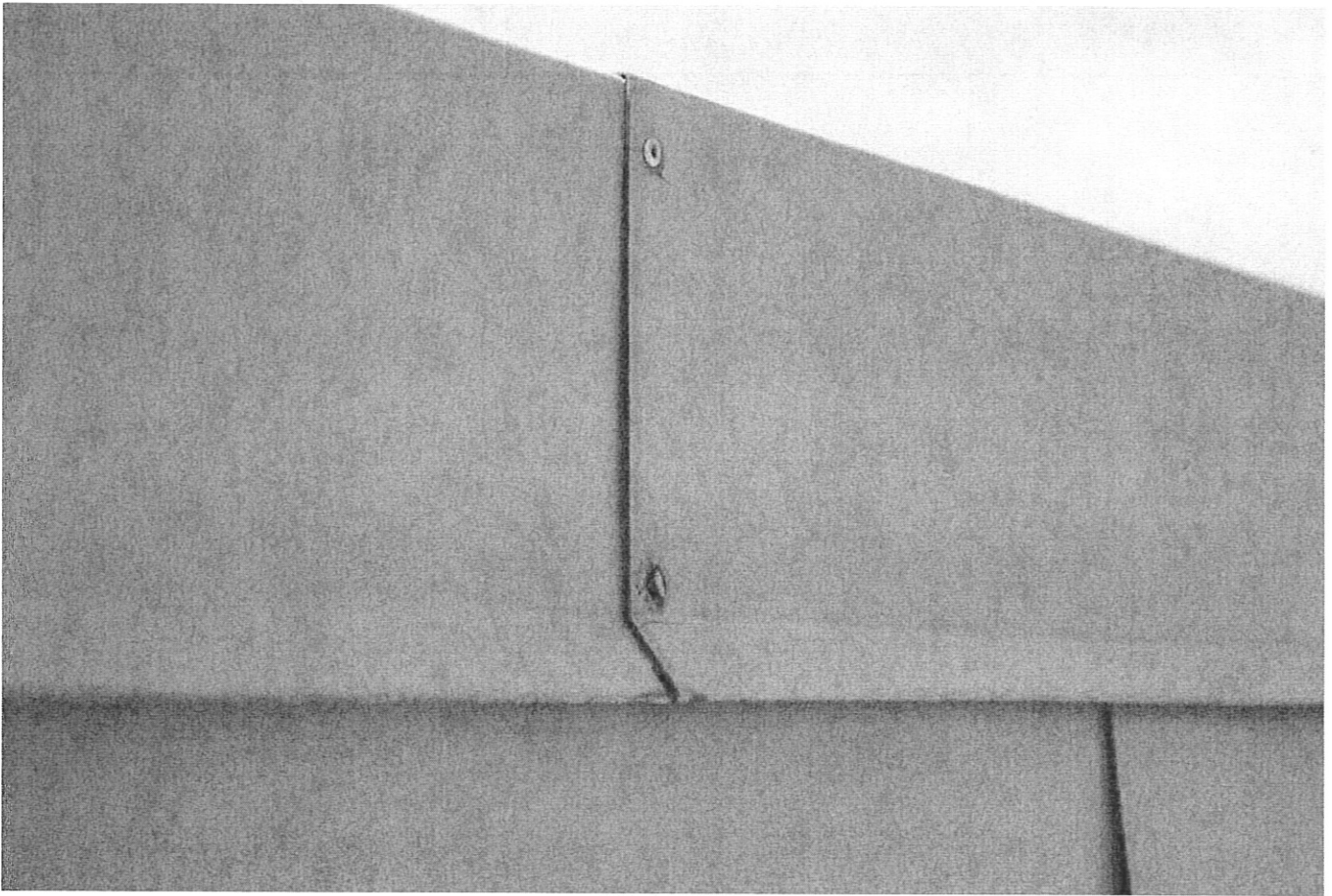


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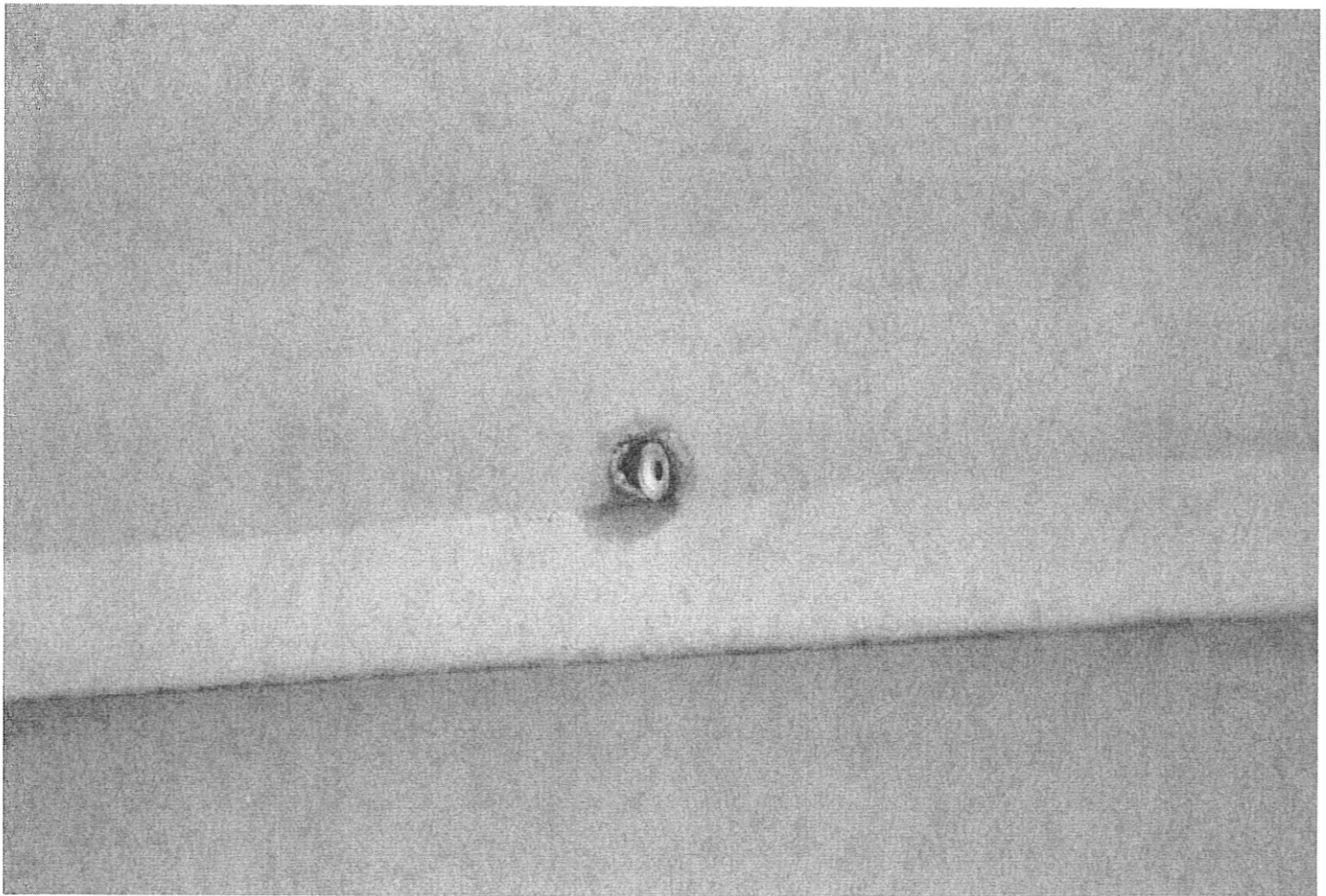


Photo 14



Photo 15

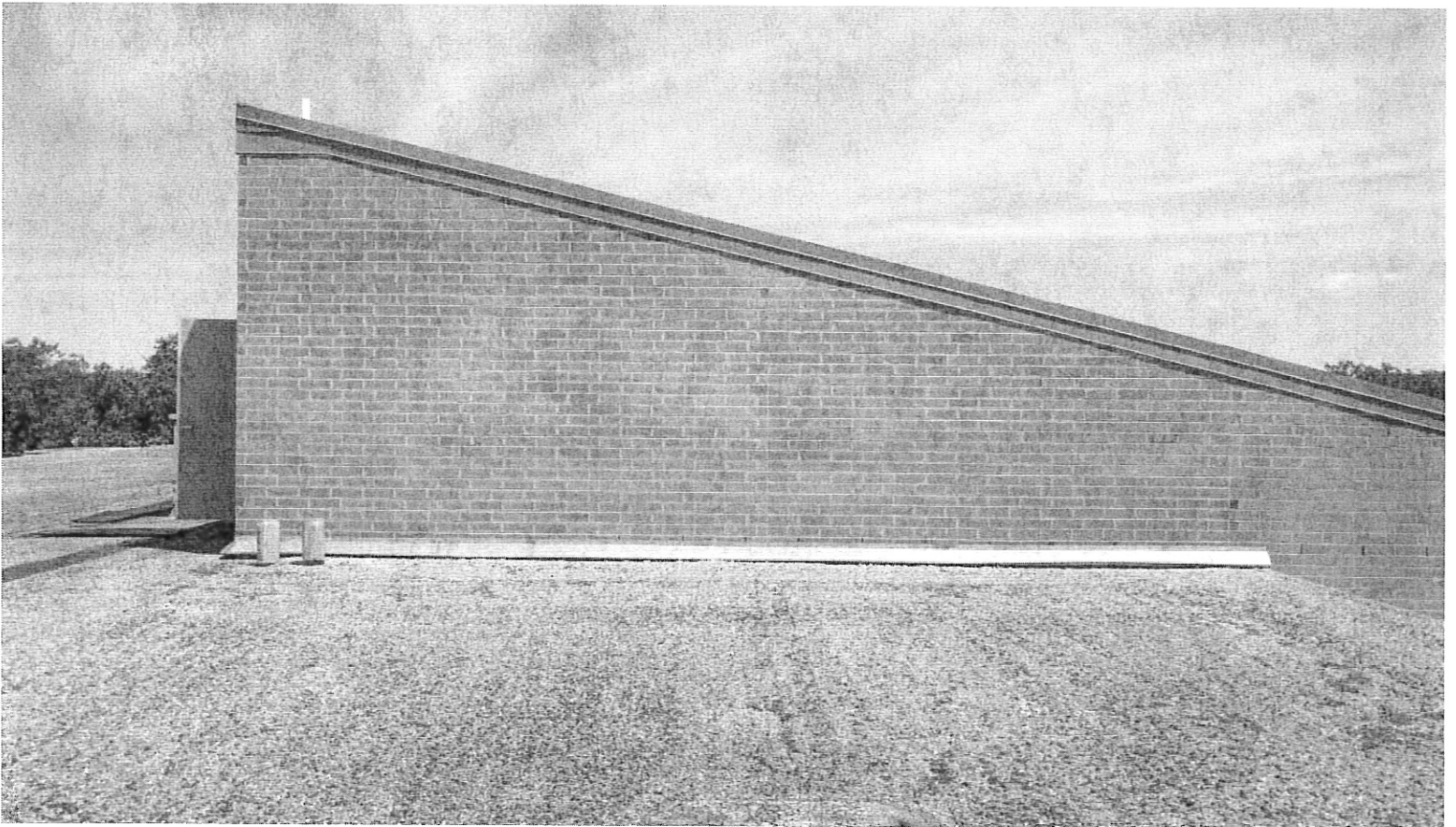


Photo 16

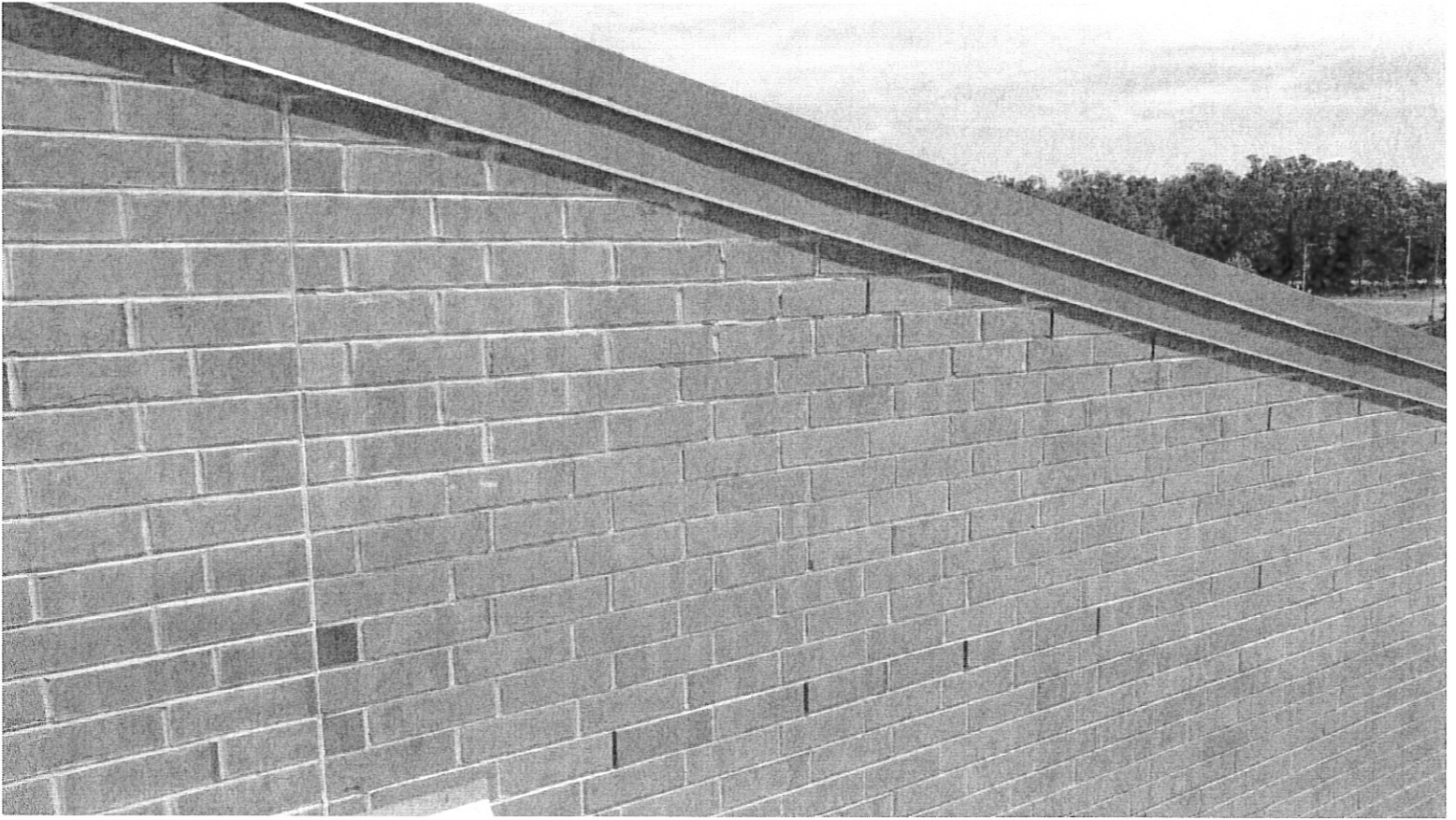


Photo 17

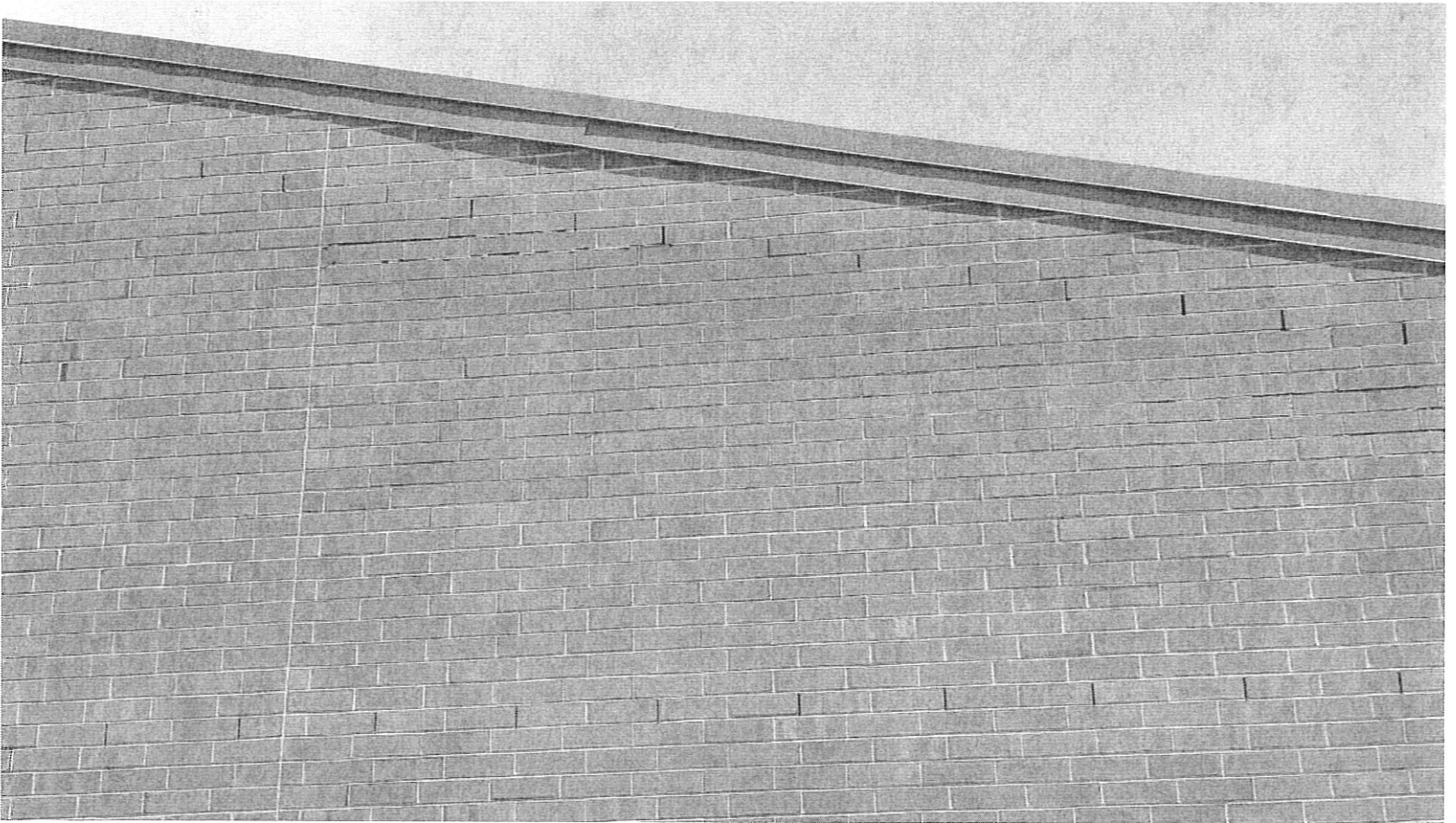


Photo 18

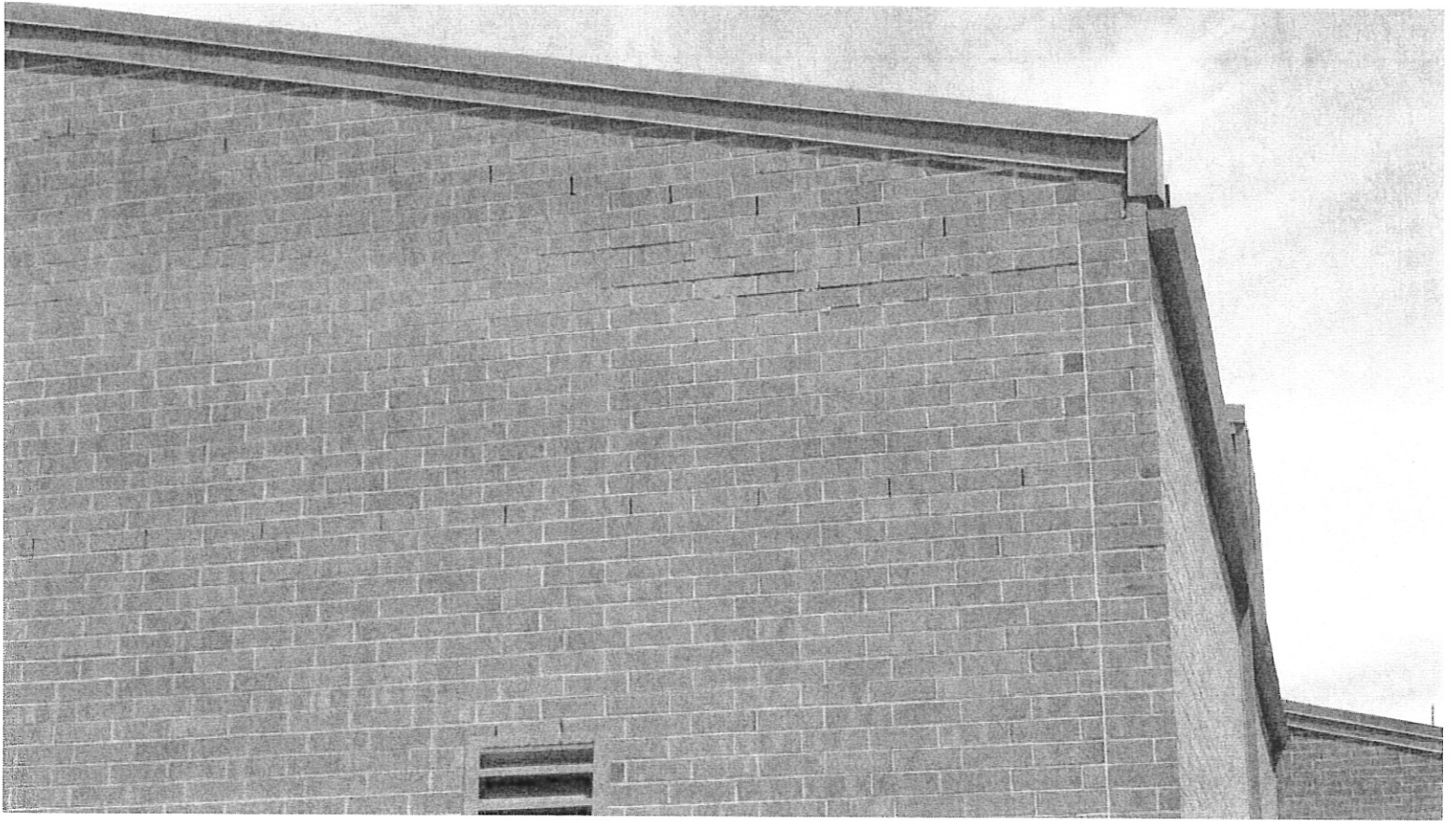


Photo 19

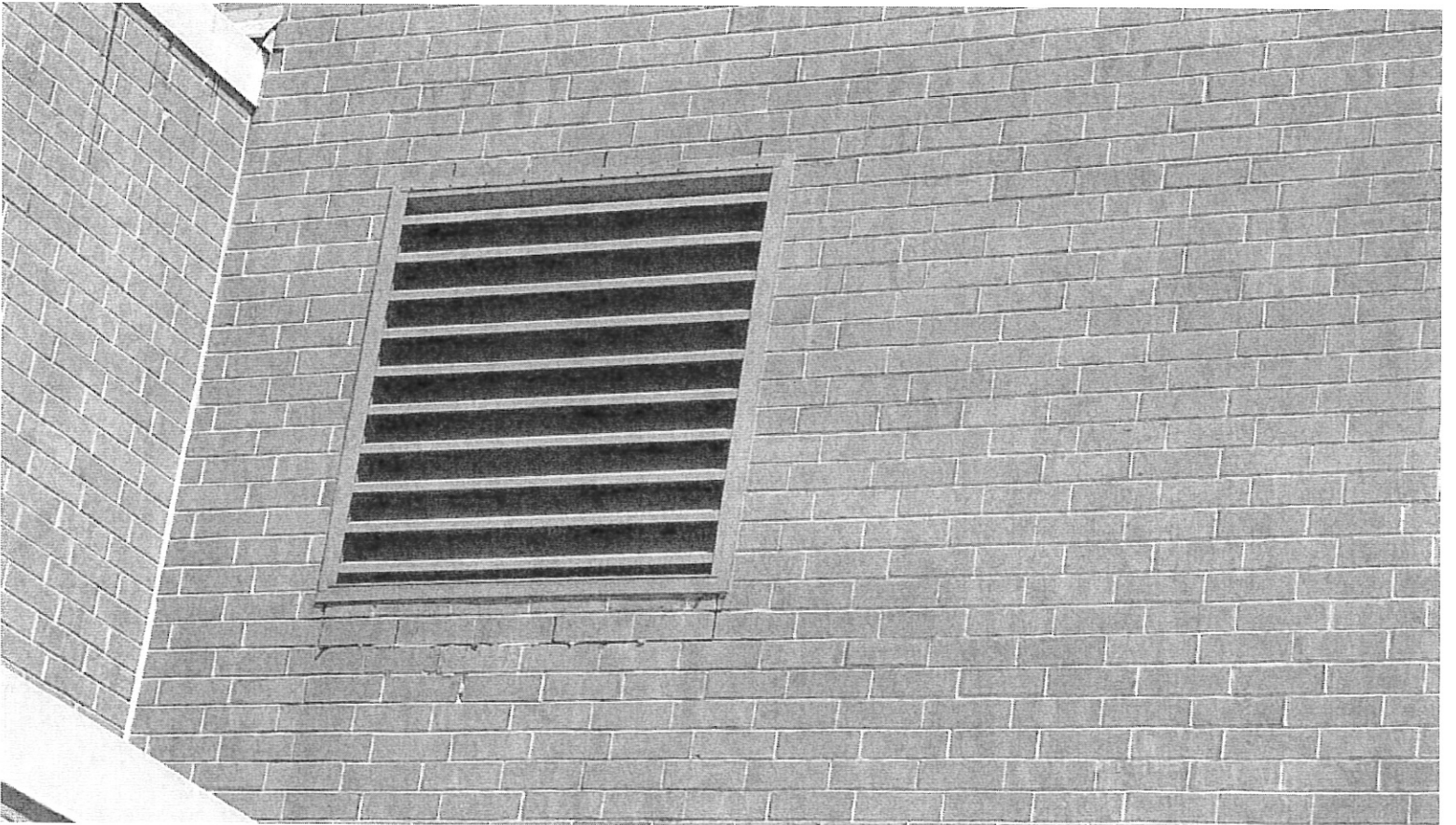


Photo 20

APPENDIX B



**EAST STROUDSBURG AREA SCHOOL DISTRICT
Proposed 5-Year Capital Improvement Plan**

Improvements Considered for Initial 5-Year Timeframe:

JTL Masonry Repairs	\$ 1,650,000.00	(Site walls, building flashing, parapets, curtainwall system at offices)
North Campus Paving	\$ 3,395,000.00	(To be broken into smaller phases as needed)
ATC Replacement at Lehman/North HS	\$ 2,875,000.00	
North HS / Lehman Roof Repairs	\$ 821,000.00	(Include 25,000 sq. ft. flat roof replacement, misc. metal repairs, snow guards)
Lighting Upgrades	\$ 1,400,000.00	(Energy efficiency improvements by replacement of older technologies)
Resica Paving	\$ 385,000.00	
South HS Field House / Stadium	\$ 3,248,519.63	(Upgrades to accessibility and overall condition)

Capital Project

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Replace library windows at South HS	\$ 150,000					\$ 150,000
Access Control Systems	\$ 45,000	\$ 25,000			\$ 30,000	\$ 100,000
Surveillance Camera Systems	\$ 22,000	\$ 16,000	\$ 128,000	\$ 128,000	\$ 96,000	\$ 390,000
Emergency Management (Telecenter U)			\$ 45,000	\$ 30,000		\$ 75,000
Fire Alarm and Security Systems	\$ 80,000					\$ 80,000
JTL Masonry Repairs		\$ 1,650,000				\$ 1,650,000
North Campus Paving Repairs	\$ 200,000		\$ 1,140,000	\$ 1,027,500	\$ 1,027,500	\$ 3,395,000
ATC Replacement at Lehman/North HS	\$ 2,875,000					\$ 2,875,000
Lehman/North HS Roof Repairs		\$ 821,000				\$ 821,000
Lighting Upgrades				\$ 650,000	\$ 750,000	\$ 1,400,000
Resica Paving Mill/Overlay Repairs				\$ 385,000		\$ 385,000
Total By Year:	\$ 3,372,000	\$ 2,512,000	\$ 1,268,000	\$ 2,235,500	\$ 1,933,500	\$ 11,321,000

